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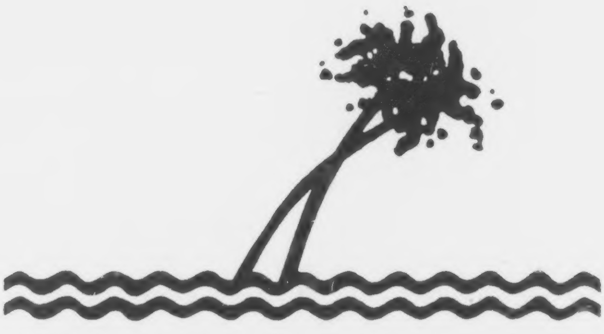
STATE OF HAWAI'I

DEPARTMENT OF HEALTH

ANNUAL REPORT

STATISTICAL SUPPLEMENT

1989



The Health State

JOHN WAIHEE
GOVERNOR OF HAWAI'I

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAI'I

DEPARTMENT OF HEALTH

ANNUAL REPORT STATISTICAL SUPPLEMENT

1989

This is the statistical supplement to the narrative report
published in a separate volume.

Anyone needing additional information may
write directly to the program concerned.

Department of Health
Office of Health Status Monitoring
P.O. Box 3378
Honolulu, Hawai'i 96801

MAY 1991

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VITAL STATISTICS SUMMARY, 1989

Resident Mid-year Population

The resident population of the State of Hawai'i as of July 1, 1989 was 1,112,100, a 1.5 percent increase from the revised population figure of 1,096,200 reported as of July 1, 1988. The 1989 total was 15.3 percent higher than the population figure of 964,691 reported in the 1980 U.S. Census.

There were increases in resident population in all counties and, with the exception of Lāna'i, Moloka'i, and Kaho'olawe, on all islands. The greatest increase in county resident population occurred in Maui County, a 4.7 percent increase from 92,700 in 1988 to 97,100 in 1989. The greatest increase in island resident population was reported by Maui Island, a 5.0 percent increase from 83,900 in 1988 to 88,100 in 1989. Unless otherwise noted, data for Kalawao County (Kalaupapa Settlement) are included in Maui County.

The smallest increase in resident population was reported as 0.6 percent in the City and County of Honolulu, from 836,900 in 1988 to 841,600 in 1989. With respect to island, population data for Lāna'i and Moloka'i reflected the least movement, neither a growth nor a decrease in population. Kaho'olawe remains uninhabited.

Estimates of the population are periodically revised. Please refer to the section on General Notes for details about the population figures used in this report.

Live Births

Of the 19,428 total live births recorded in the State of Hawai'i in 1989, 19,335 (or 99.5 percent) were resident births. The total number of births increased by 2.0 percent from 19,054 in 1988, and the resident number of births rose by 2.1 percent from 18,937 in 1988.

The crude resident birth rate statewide in 1989 was 17.4 per 1,000 residents, slightly higher than the rate of 17.3 per 1,000 residents recorded in 1988. Most of the increase in the rate may be attributed to the increase reflected in the crude resident birth rate in the City and County of Honolulu, which was 17.5 per 1,000 residents in 1989 compared to 17.2 per 1,000 residents in 1988. The crude resident birth rates in Hawai'i County, Kaua'i County, and Maui County were 16.4, 16.9, and 17.8 per 1,000 residents, respectively, in 1989. These neighbor island rates were all lower than their respective rates in 1988 of 16.9, 17.7, and 17.8 per 1,000 residents. Nationally, the provisional crude birth rate of 16.2 per 1,000 population was higher than the provisional 1988 rate of 15.9 per 1,000.

In 1989, there were 4,025 resident live births where at least one of the parents was in the military. The crude birth rate in the community of military personnel and their dependents was 34.5 per 1,000 population.

There were 13,550 live births where neither parent was in the military, resulting in a civilian birth rate of 13.6 per 1,000. This excludes 1,760 live births where the military status of the parents was unknown.

Multiple Live Births

In the State of Hawai'i in 1989, there were 440 live multiple resident births recorded. This figure was 26.4 percent higher than the 1988 figure of 348. The multiple births in 1989 included 429 children born as part of a set of twins and 11 children born as part of a set of triplets. In addition, there was a set of Siamese twins born in the City and County of Honolulu in 1989.

Attendant at Birth

Of the 19,335 resident live births recorded during 1989, 19,048 births, or 98.5 percent, were delivered by a physician, and 269, or 1.4 percent, were delivered by a licensed midwife.

A total of 19,117 infants, or 98.9 percent, were delivered in a hospital, and 192 infants, or 1.0 percent, were delivered at home. Of the 192 infants born at home, 19 were delivered by a physician and 160 by a licensed midwife.

Prenatal Visits

The mothers of 13,508, or 69.9 percent, of the infants born to residents of Hawai'i visited a physician for prenatal care for the first time during the first trimester. There were 3,333 infants, or 17.2 percent, whose mothers initiated prenatal care during the second trimester and 964 infants, or 5.0 percent, whose mothers delayed beginning prenatal care until the third trimester. Ninety-seven of the infants were born without their mothers having received any prenatal care.

There were 12,636 infants, 65.4 percent of all infants born to resident mothers, whose mothers had made more than 8 prenatal visits.

Median Age of Parents

The median age of parents with respect to resident births statewide in 1989 was 27 years for mothers and 29 years for fathers.

Sex Ratio of Live Births

The sex ratio based on resident live births was 104.8 resident male births per 100 resident female births in 1989. This ratio was slightly higher than the sex ratio of 103.6 resident male births per 100 resident female births recorded in 1988.

Congenital Anomalies

Of the 19,335 resident births recorded in 1989, there were 277, or 1.4 percent, at which one or more congenital anomalies were noted in the newborn.

The total number of congenital anomalies noted in resident births was 326. The significant types of congenital anomalies noted most frequently included 30 respiratory anomalies, 24 heart malformations, 22 skin tags, 19 nevus, and 16 cases of cleft lip/palate.

From 1987 to 1988, an in-depth prevalence study of congenital anomalies was conducted, involving all hospitals with maternity wards. The subsequent improvement in reporting methods, however, led to the incomparability of data collected since the prevalence study with data collected prior to the inception of the study.

Apgar Score

The Apgar score is both a valuable measure of the need for resuscitation of a newborn and a predictor of the infant's chances of surviving the first year of life. It is a summary measure of the condition of the infant, based on heart rate, respiratory effort, muscle tone reflex, irritability, and color.

Ranging in value from 0 through 10, a low Apgar score indicates that an infant needs immediate attention in order to survive, while a high score is an indicator of optimal condition. Of the 19,335 resident births statewide in 1989, 89.9 percent of the infants were assigned a favorable score of 9 or 10 at five minutes after birth while 0.3 percent were assigned a low score ranging from 0 through 3. In comparison, 89.6 percent of the births in 1988 were assigned scores of 9 or 10, and 0.2 percent were assigned scores of 0 through 3.

Illegitimate Births

The illegitimate birth rate for residents statewide in 1989 was 238.8 per 1,000 live births, an increase from the rate in 1988 of 223.3 per 1,000 live births.

The highest rate of illegitimate birth was found in Hawai'i County, 324.9 per 1,000 live births. Illegitimate births comprised 71.6 percent of the births in the city of Hilo. Although the City and County of Honolulu had the lowest rate of illegitimate birth, 222.3 per 1,000 live births, illegitimate births in the city of Honolulu comprised more than half of the births there, 51.6 percent.

The illegitimate birth rates in Kaua'i County and in Maui County were similar, 264.6 per 1,000 live births in Maui County and 269.5 per 1,000 live births in Kaua'i County.

Low Birthweight Births

Birthweights less than 2,500 grams are considered low, and birthweights less than 1,500 grams are considered very low. In 1989 statewide, 1,377 of the resident live births, 7.1 percent, were considered low birthweight births. Included in that figure were 197 very low birthweight resident births, 1.0 percent of all resident births.

Of the 2,189 resident infants whose mothers reported smoking, 11.0 percent were classified as being of low birthweight. Included in this percentage are 27 infants, or 1.2 percent, who were classified as being of very low birthweight.

Standard Fetal Death Ratio

The resident standard fetal death ratio statewide in 1989 was 76.0 fetal deaths per 1,000 resident live births. This was an increase from the ratio of 74.5 per 1,000 resident live births in 1988.

With respect to county, the highest standard fetal death ratio was found in Kaua'i County, 105.7 per 1,000 resident live births. The next highest ratio, 81.7 per 1,000 resident live births, was found in Hawai'i County. The ratios for Maui County and for the City and County of Honolulu, 73.9 per 1,000 resident live births and 73.6 per 1,000 resident live births, respectively, were both lower than the statewide ratio.

With respect to major ethnic groups in Hawai'i based on the ethnicity of the child, the highest standard fetal death ratio was found among the Caucasians (excluding Portuguese), where 524 fetal deaths and 4,248 live births resulted in a ratio of 123.4 fetal deaths per 1,000 resident live births. The second highest standard fetal death ratio was found among the Portuguese, where 10 fetal deaths and 88 live births resulted in a ratio of 113.6 fetal deaths per 1,000 resident live births. Among Hawaiians and Part-Hawaiians, there were 260 fetal deaths and 6,256 resident live births, resulting in a standard fetal death ratio of 41.6 per 1,000 resident live births.

Elective Induced Abortions

Of the 5,316 elective abortions reported statewide in 1989, 28 abortions, or 0.5 percent, were performed on non-residents. The elective induced abortion ratio for residents statewide in 1989 was 273.1 abortions per 1,000 live births, a decrease from the ratio of 316.7 per 1,000 live births determined for 1988.

With respect to county, the highest ratio was found in Kaua'i County, 334.5 abortions per 1,000 live births. The next highest ratio, 291.9 abortions per 1,000 live births, was found in the City and County of Honolulu. In Maui County, the ratio was 243.8 abortions per 1,000 live births, and in Hawai'i County, the ratio was 134.0 abortions per 1,000 live births.

Illegitimacies accounted for 73.0 percent of the abortions, and 98.8 percent of all abortions were performed by suction curettage.

Pregnancies

Of the 26,084 pregnancies recorded among residents in 1989 statewide, 19,335, or 74.1 percent, resulted in live births. Fetal death was the outcome of 1,469, or 5.6 percent, of the pregnancies, and 5,280, or 20.2 percent, of the pregnancies ended in abortion.

The majority of pregnancies, 20,122, were recorded in the City and County of Honolulu. Hawai'i County reported 2,440, or 9.4 percent, of the pregnancies statewide; Maui County reported 2,281, or 8.7 percent; and 1,240, or 4.8 percent, were reported by Kaua'i County.

Women 25 to 29 years of age experienced 7,402, or 28.4 percent, of pregnancies, and those 20 to 24 years of age experienced 7,188, or 27.6 percent, of pregnancies. These were the age categories with the highest proportions of pregnancies.

With respect to ethnicity, 7,690 pregnancies, or 29.5 percent, were experienced by Caucasian women; 5,168, or 19.8 percent, were experienced by Part-Hawaiian women; and 4,519, or 17.3 percent, were experienced by Filipino women. These were the ethnic groups with the highest proportions of pregnancies.

Deaths

Of the 6,730 deaths that occurred in the State of Hawai'i in 1989, 94.8 percent were deaths of residents.

There were 6,381 resident deaths in Hawai'i statewide in 1989, a 6.9 percent increase from the 5,970 resident deaths reported in 1988. The crude resident death rate for 1989 was 5.7 per 1,000 resident population.

With respect to county, the highest crude death rate, 6.9 per 1,000 resident population, was found in Hawai'i County, and the second highest rate, 6.3 per 1,000 resident population, was found in Kaua'i County. In Maui County, there was a crude death rate of 6.0 per 1,000 resident population, and the lowest crude death rate, 5.5 per 1,000 resident population, was found in the City and County of Honolulu.

Infant Deaths

In 1989, there were 170 infant deaths statewide, with 91.8 percent being resident deaths.

There were 156 resident infant deaths in the State, with the rate of 8.1 per 1,000 live births. This is an increase from the rate of 6.9 per 1,000 live births in 1988, but remains lower than the 1987 rate of 8.8 per 1,000 live births.

Neighbor island infant deaths were too few (each less than 20) to compute reliable rates.

Infant death rates were calculated based on the ethnicity of the child. Among the smaller ethnic groups, the Puerto Ricans and Vietnamese had only one infant death each -- too few for computing reliable rates. The infant death rate among the Filipinos was 8.8 per 1,000 live births; the rates for the Caucasians and for the Hawaiians and Part-Hawaiians were both 7.8 per 1,000 live births; and among the Japanese, the infant death rate was 7.4 per 1,000 live births.

Perinatal Mortality Rate

The 1989 resident perinatal mortality rate statewide was 8.9 per 1,000 perinatal events (live births plus late fetal deaths), a decrease from the rate of 11.6 per 1,000 perinatal events in 1988. (The perinatal mortality rate is defined as the number of deaths to infants under 1 week of age or to fetuses of 20 weeks or more gestation per 1,000 live births plus fetal deaths of 20 weeks or more gestation.)

The perinatal mortality rate in Maui County, 10.3 per 1,000 perinatal events, was the highest among the county rates, followed by the rate of 9.0 per 1,000 perinatal events in the City and County of Honolulu. In Kaua'i County, the rate was 8.1 per 1,000 perinatal events. The lowest rate was 7.4 per 1,000 perinatal events in Hawai'i County.

Maternal Deaths

In 1989, no maternal deaths were reported. There were two maternal deaths in 1988 and one in 1987, for which the maternal mortality rates were 1.1 per 10,000 live births and 0.5 per 10,000 live births, respectively. The last year in which no maternal deaths had been reported was 1983.

Leading Causes of Death

In 1989, the overall death rate per 100,000 resident population was 573.8. Diseases of the Heart remained the leading cause of death, where the cause-specific death rate increased from 169.2 per 100,000 resident population in 1988 to 177.8 per 100,000 resident population in 1989. Malignant Neoplasm and Cerebrovascular Diseases were the second and third leading causes of death in Hawai'i in 1989 with cause-specific death rates of 141.3 per 100,000 resident population and 42.6 per 100,000 resident population, respectively. These rates are increases over the 1988 death rates of 138.0 per 100,000 resident population due to Malignant Neoplasm and 38.8 per 100,000 resident population due to Cerebrovascular Diseases. The three leading causes of death accounted for 63.0 percent of the resident deaths in Hawai'i in 1989.

There were 25.5 deaths per 100,000 resident population due to All Accidents, the fourth leading cause; 24.5 per 100,000 residents due to Influenza/Pneumonia, the fifth leading cause; 17.7 per 100,000 residents due to Chronic Obstructive Pulmonary Diseases, the sixth leading cause; and 13.4 per 100,000 residents due to Diabetes Mellitus, the seventh leading cause.

The death rates per 100,000 resident population due to other leading causes in 1989 were, in descending order, 13.0 due to Other Respiratory Diseases; 10.7 due to Suicide; 6.8 due to Chronic Liver Disease and Cirrhosis; 6.7 due to Other Circulatory Diseases; 5.9 due to HIV Infection; 5.7 due to Perinatal Conditions; 5.4 due to Septicemia; 5.3 due to Symptoms, Signs, and Ill-Defined Conditions; 5.1 due to Nephritis, Nephrotic Syndrome, and Nephrosis; and 4.7 due to Homicide and Legal Intervention. The death rate due to All Other Causes was 61.7 per 100,000 resident population.

Marriages

There were 17,974 marriages performed in the State of Hawai'i in 1989, a 4.0 percent increase from the 17,281 marriages performed in 1988. The majority of marriages, 57.7 percent, were performed in the City and County of Honolulu. Seventeen percent were performed in Maui County, 16.5 percent were performed in Kaua'i County, and 8.8 percent were performed in Hawai'i County.

There were 7,358 brides who were residents of other states comprising 40.9 percent of all brides and 7,216 brides who were residents of the City and County of Honolulu accounting for 40.1 percent of all brides. Statewide, there were 1,132 foreign brides, 6.3 percent of all brides, married in 1989.

There were 7,405 grooms who were residents of the City and County of Honolulu comprising 41.2 percent of all grooms and 7,224 grooms who were residents of other states accounting for 40.2 percent of all grooms. In addition, there were 1,068 foreign grooms, 5.9 percent of all grooms, married statewide.

With respect to age groups, the highest proportion, 12.0 percent, of all marriages were performed where the bride and the groom were both between the ages of 25 and 29 years, inclusive. More than half, or 53.6 percent of all marriages, were performed where the bride and the groom were both Caucasian.

Divorces

In the State of Hawai'i in 1989, there were 5,613 divorces and annulments, an increase of 11.8 percent from the 5,020 divorces and annulments recorded in 1988. More than three-quarters of the divorces and annulments, 78.5 percent, were granted in the City and County of Honolulu.

With respect to age categories, the highest proportion, 10.9 percent, of all divorces and annulments was granted to couples where both the husband and the wife were between the ages of 25 and 29 years, inclusive. With respect to ethnicity, the highest proportion, 34.1 percent, of all divorces and annulments were granted to couples where both the husband and the wife were Caucasian.

Notes

Please refer to the section on General Notes for further information about the tables in the vital statistics section.

TABLE 1
ESTIMATED POPULATION BY RESIDENCE AND MILITARY STATUS
STATE OF HAWAII
1970, 1980, 1988 and 1989

	Resident Population				
	Total		Armed Forces1/	Civilian2/	
U.S. CENSUS	Number	Percent	Number	Number	Percent
APRIL 1, 1970					
State Total	769,913	100.0	55,142	714,771	100.0
City & County of Honolulu	630,528	81.9	54,809	575,719	80.5
Hawaii County	63,468	8.2	140	63,328	8.9
Kauai County	29,761	3.9	134	29,627	4.1
Kauai Island	29,524	3.8	134	29,390	4.1
Niihau Island	237	0.0	-	237	0.0
Maui County3/	46,156	6.0	59	46,097	6.5
Lanai Island	2,204	0.3	-	2,204	0.3
Maui Island	38,691	5.0	59	38,632	5.4
Molokai Island3/	5,261	0.7	-	5,261	0.8
APRIL 1, 1980					
State Total	964,691	100.0	57,056	907,635	100.0
City & County of Honolulu	762,565	79.1	56,726	705,839	77.7
Hawaii County	92,053	9.5	152	91,901	10.2
Kauai County	39,082	4.0	153	38,929	4.3
Maui County3/	70,991	7.4	25	70,966	7.8
Lanai Island	2,119	0.2	-	2,119	0.2
Maui Island	62,823	6.5	25	62,798	6.9
Molokai Island3/	6,049	0.6	-	6,049	0.7

	Revised Population July 1, 1988		Provisional Population July 1, 1989	
Area	Number	Percent	Number	Percent
State Total	1,096,200	100.0	1,112,100	100.0
City & County of Honolulu	836,900	76.3	841,600	75.7
Hawaii County	117,200	10.7	122,300	11.1
Kauai County4/	49,200	4.5	51,000	4.6
Niihau Island	207	-	210	-
Maui County3/	92,800	8.5	97,100	8.7
Lanai Island	2,200	-	2,200	-
Maui Island	83,900	-	88,100	-
Molokai Island	6,700	-	6,700	-

1/ Includes Navy and Coast Guard crews.

2/ Includes military dependents 1970-61,858; 1980-64,023; 1987-64,800, 1988-69,900.

3/ Includes Kalawao (121 people in 1988, 127 people in 1989), Lanai, Maui, and Molokai.

4/ Includes Niihau.

Source: Hawaii State Department of Business and Economic Development, Statistical Report 215 May 1990; Preliminary Intercensal Estimates, 1970-1980, July 9, 1981.

FIGURE 1
BIRTH RATE FOR HAWAII AND U.S.
1900-1989

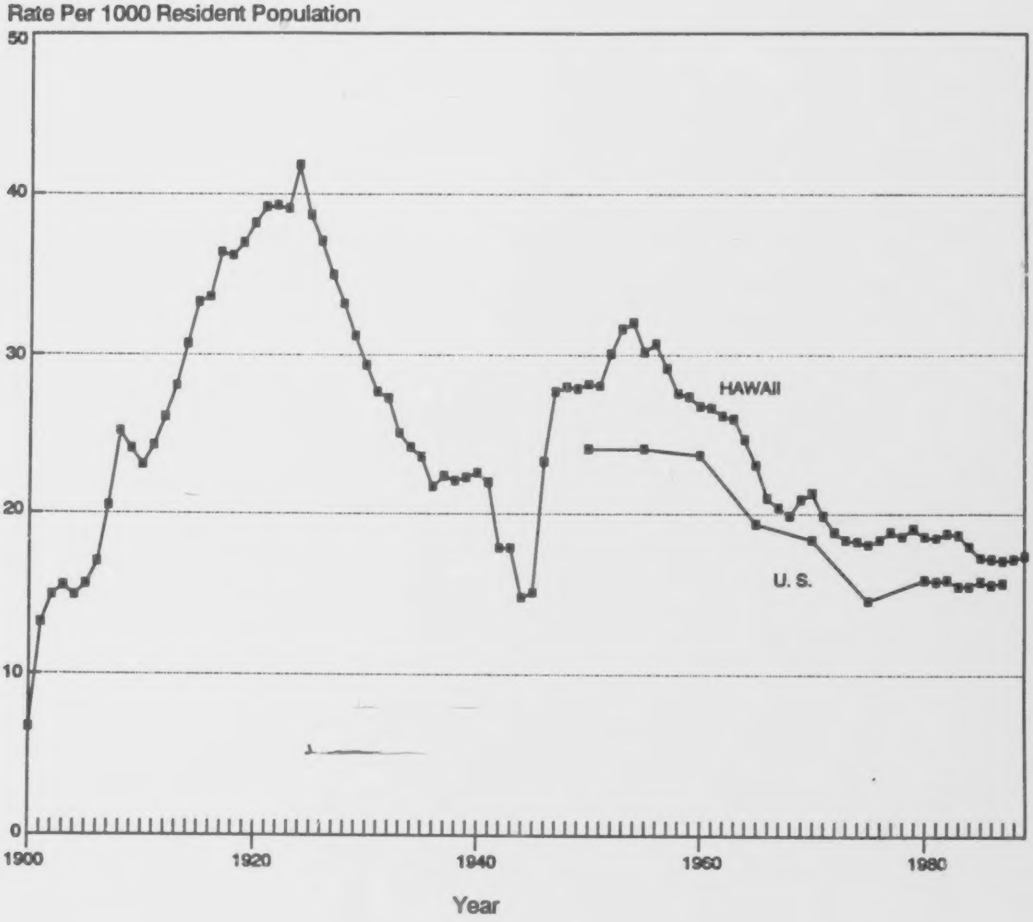


TABLE 2A
GEOGRAPHICAL AREA OF BIRTH (OCCURRENCE) BY MONTH OF BIRTH
1989

GEOGRAPHIC AREA	MONTH OF BIRTH												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hawaii County	149	140	142	158	130	163	176	160	156	187	155	173	1889
City of Hilo	96	90	106	96	83	109	121	97	98	117	97	111	1221
Rest of Hawaii County	53	50	36	62	47	54	55	63	58	70	58	62	668
City & County of Honolulu	1216	1112	1259	1210	1242	1226	1289	1320	1285	1331	1299	1315	15104
Honolulu District	1108	1009	1133	1088	1141	1094	1166	1183	1170	1183	1160	1197	13632
Rest of Honolulu County	108	103	126	122	101	132	123	137	115	148	139	118	1472
Kauai County	60	63	78	64	77	62	61	76	72	63	76	67	819
Island of Kauai	60	63	77	64	77	62	61	76	72	63	76	67	818
Island of Niihau	0	0	1	0	0	0	0	0	0	0	0	0	1
Maui County	131	121	126	132	138	120	144	138	160	127	135	144	1616
Island of Lanai	1	0	0	1	5	0	1	0	0	0	1	0	9
Island of Maui	123	116	115	121	127	112	136	134	155	122	127	135	1523
Island of Molokai	7	5	11	10	6	8	7	4	5	5	7	9	84
Total	1556	1436	1605	1564	1587	1571	1670	1694	1673	1708	1665	1699	19428

TABLE 2B
GEOGRAPHICAL AREA OF RESIDENCE BY MONTH OF BIRTH
1989

GEOGRAPHIC AREA	MONTH OF BIRTH												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hawaii County	166	148	154	162	137	176	192	166	163	193	165	185	2007
City of Hilo	53	44	63	58	39	59	66	43	47	64	56	49	641
Rest of Hawaii County	113	104	91	104	98	117	126	123	116	129	109	136	1366
City and County of Honolulu	1184	1087	1229	1189	1211	1188	1257	1291	1244	1307	1272	1277	14736
Honolulu District	453	410	466	421	468	447	441	485	489	499	483	472	5534
Rest of Honolulu County	731	677	763	768	743	741	816	806	755	808	789	805	9202
Kauai County	61	64	80	67	81	67	63	82	77	66	79	74	861
Island of Kauai	61	64	79	67	81	67	63	82	77	66	79	74	860
Island of Niihau	0	0	1	0	0	0	0	0	0	0	0	0	1
Maui County	137	131	133	138	149	132	153	147	176	135	146	154	1731
Island of Lanai	2	1	2	2	7	2	2	1	0	1	1	2	23
Island of Maui	125	121	119	126	131	118	140	141	160	123	135	139	1578
Island of Molokai	10	9	12	10	11	12	11	5	16	11	10	13	130
Non-Resident	8	6	9	8	9	8	5	8	13	7	3	9	93
Total	1556	1436	1605	1564	1587	1571	1670	1694	1673	1708	1665	1699	19428

TABLE 3A
GEOGRAPHICAL AREA OF BIRTH (OCCURRENCE) BY SEX OF CHILD
1989

GEOGRAPHIC AREA	SEX		
	Male	Female	Total
Hawaii County	940	949	1889
City of Hilo	595	626	1221
Rest of Hawaii County	345	323	668
City and County of Honolulu	7750	7354	15104
Honolulu District	7004	6628	13632
Rest of Honolulu County	746	726	1472
Kauai County	420	399	819
Island of Kauai	419	399	818
Island of Niihau	1	0	1
Maui County	836	780	1616
Island of Lanai	4	5	9
Island of Maui	797	726	1523
Island of Molokai	35	49	84
Total	9946	9482	19428

TABLE 3B
GEOGRAPHICAL AREA OF RESIDENCE BY SEX OF CHILD
1989

GEOGRAPHIC AREA	SEX		
	Male	Female	Total
Hawaii County	1002	1005	2007
City of Hilo	319	322	641
Rest of Hawaii County	683	683	1366
City & County of Honolulu	7562	7174	14736
Honolulu District	2810	2724	5534
Rest of Honolulu County	4752	4450	9202
Kauai County	433	428	861
Island of Kauai	432	428	860
Island of Niihau	1	0	1
Maui County	898	833	1731
Island of Lanai	10	13	23
Island of Maui	823	755	1578
Island of Molokai	65	65	130
Non-Resident	51	42	93
Total	9946	9482	19428

TABLE 4A
GEOGRAPHICAL AREA OF BIRTH (OCCURRENCE) BY ETHNICITY OF CHILD
1989

GEOGRAPHIC AREA	ETHNICITY OF CHILD														
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto-Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown	Total
HAWAII COUNTY	341	11	941	22	242	213	7	14	5	17	18	0	55	3	1889
City of Hilo	130	4	654	19	158	172	6	9	1	11	14	0	43	0	1221
Rest of HI Cnty.	211	7	287	3	84	41	1	5	4	6	4	0	12	3	668
HON. COUNTY	3432	13	4318	745	2271	1851	73	326	486	52	936	87	507	7	15104
Honolulu District	3083	11	3731	709	2083	1751	61	305	436	45	893	84	437	3	13632
Rest of Hon. Cnty.	349	2	587	36	188	100	12	21	50	7	43	3	70	4	1472
KAUAI COUNTY	151	6	314	9	233	75	1	7	2	6	5	0	9	1	819
Island of Kauai	151	6	313	9	233	75	1	7	2	6	5	0	9	1	818
Island of Niihau	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
MAUI COUNTY	375	7	648	15	327	153	7	6	2	13	6	6	50	1	1616
Island of Lanai	0	0	2	0	7	0	0	0	0	0	0	0	0	0	9
Island of Maui	373	6	573	14	314	153	7	6	2	13	6	6	49	1	1523
Island of Molokai	2	1	73	1	6	0	0	0	0	0	0	0	1	0	84
Total	4299	37	6221	791	3073	2292	88	353	495	88	965	93	621	12	19428

TABLE 4B
GEOGRAPHICAL AREA OF RESIDENCE BY ETHNICITY OF CHILD
1989

GEOGRAPHIC AREA	ETHNICITY OF CHILD														
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto-Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown	Total
HAWAII COUNTY	370	11	995	23	250	230	8	17	6	19	18	0	57	3	2007
City of Hilo	45	2	351	15	61	121	4	7	0	9	7	0	19	0	641
Rest of HI Cnty.	325	9	644	8	189	109	4	10	6	10	11	0	38	3	1366
HON. COUNTY	3330	12	4168	735	2240	1812	72	322	481	48	931	87	491	7	14736
Honolulu District	981	3	1254	504	907	863	18	198	224	14	272	66	229	1	5534
Rest of Hon. Cnty.	2349	9	2914	231	1333	949	54	124	257	34	659	21	262	6	9202
KAUAI COUNTY	158	6	337	12	236	79	1	7	3	6	5	0	10	1	861
Island of Kauai	158	6	336	12	236	79	1	7	3	6	5	0	10	1	860
Island of Niihau	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
MAUI COUNTY	390	8	719	16	343	162	7	6	2	15	6	6	50	1	1731
Island of Lanai	0	0	5	1	14	3	0	0	0	0	0	0	0	0	23
Island of Maui	386	6	602	14	320	159	7	6	2	14	6	6	49	1	1578
Island of Molokai	4	2	112	1	9	0	0	0	0	1	0	0	1	0	130
Non-Resident	51	0	2	5	4	9	0	1	3	0	5	0	13	0	93
Total	4299	37	6221	791	3073	2292	88	353	495	88	965	93	621	12	19428

TABLE 5A
GEOGRAPHICAL AREA OF BIRTH (OCCURRENCE) BY ETHNICITY OF MOTHER
1989

	ETHNICITY OF MOTHER														
GEOGRAPHIC AREA	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto-Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown	Total
HAWAII COUNTY	518	26	661	25	306	206	13	21	10	40	10	0	50	3	1889
City of Hilo	219	13	467	20	220	170	9	17	5	34	6	0	41	0	1221
Rest of HI Cnty.	299	13	194	5	86	36	4	4	5	6	4	0	9	3	668
HON. COUNTY	4435	53	3155	713	2454	2011	92	384	483	110	669	83	453	9	15104
Honolulu District	3954	45	2713	682	2248	1910	78	359	431	95	639	81	392	5	13632
Rest of Hon. Cnty.	481	8	442	31	206	101	14	25	52	15	30	2	61	4	1472
KAUAI COUNTY	216	17	209	14	246	76	0	6	1	21	1	0	11	1	819
Island of Kauai	216	17	208	14	246	76	0	6	1	21	1	0	11	1	818
Island of Niihau	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
MAUI COUNTY	517	21	458	14	344	157	10	8	4	27	4	3	48	1	1616
Island of Lanai	0	0	1	0	8	0	0	0	0	0	0	0	0	0	9
Island of Maui	510	18	395	14	327	155	10	8	4	27	4	3	47	1	1523
Island of Molokai	7	3	62	0	9	2	0	0	0	0	0	0	1	0	84
Total	5686	117	4483	766	3350	2450	115	419	498	198	684	86	562	14	19428

TABLE 5B
GEOGRAPHICAL AREA OF RESIDENCE BY ETHNICITY OF MOTHER
1989

	ETHNICITY OF MOTHER														
GEOGRAPHIC AREA	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto-Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown	Total
HAWAII COUNTY	561	26	698	25	314	230	14	21	10	42	10	0	53	3	2007
City of Hilo	102	6	253	12	102	123	3	9	2	12	3	0	14	0	641
Rest of HI Cnty.	459	20	445	13	212	107	11	12	8	30	7	0	39	3	1366
HON. COUNTY	4302	48	3048	705	2413	1969	91	381	479	105	666	83	437	9	14736
Honolulu District	1341	11	899	473	970	898	27	232	214	26	175	64	203	1	5534
Rest of Hon. Cnty.	2961	37	2149	232	1443	1071	64	149	265	79	491	19	234	8	9202
KAUAI COUNTY	222	17	226	16	254	81	0	7	2	23	1	0	11	1	861
Island of Kauai	222	17	225	16	254	81	0	7	2	23	1	0	11	1	860
Island of Niihau	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
MAUI COUNTY	547	26	509	15	364	163	10	9	4	28	4	3	48	1	1731
Island of Lanai	2	0	4	0	14	2	0	1	0	0	0	0	0	0	23
Island of Maui	534	18	414	15	335	158	10	8	4	27	4	3	47	1	1578
Island of Molokai	11	8	91	0	15	3	0	0	0	1	0	0	1	0	130
Non-Resident	54	0	2	5	5	7	0	1	3	0	3	0	13	0	93
Total	5686	117	4483	766	3350	2450	115	419	498	198	684	86	562	14	19428

TABLE 6
CONGENITAL ANOMALIES BY ETHNICITY OF MOTHER
RESIDENTS, 1989

TYPE OF CONGENITAL ANOMALY	ETHNICITY OF MOTHER												
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Portuguese	Black	Other	Total
Anencephalus	1	0	0	0	1	1	0	0	0	0	1	0	4
Spina bifida/Meningocele	1	0	1	0	0	0	0	0	0	0	0	0	2
Hydrocephalus	1	0	0	1	0	0	0	1	0	0	0	1	4
Other central nervous system	2	0	0	0	2	0	0	0	1	1	0	0	6
Heart malformations	3	0	7	2	3	6	0	1	0	1	0	1	24
Other circulatory anomalies	10	0	6	1	5	2	0	1	1	1	1	1	29
Respiratory anomalies	17	0	2	1	4	3	0	0	0	1	0	2	30
Rectal atresia/stenosis	1	0	0	0	0	1	0	0	0	0	0	0	2
Tracheo- esophageal fistula/ Esophageal atresia	1	0	1	0	1	0	0	0	0	0	0	0	3
Omphalocele/Gastrochisis	1	0	2	0	1	0	0	0	0	0	0	0	4
Other gastrointestinal anomalies	1	0	2	0	3	0	0	0	0	1	0	2	9
Malformed genitalia	0	0	2	0	2	1	0	0	0	0	0	0	5
Renal agenesis	0	0	0	1	0	0	0	0	0	0	0	0	1
Hydrocele	6	0	4	1	2	1	0	0	0	0	0	0	14
Other urogenital anomalies	4	0	5	0	9	6	0	0	1	0	0	1	26
Cleft lip / palate	4	0	4	1	3	3	0	1	0	0	0	0	16
Polydactyly/Syndactyly/Adactyly	4	0	2	0	1	1	0	1	0	0	0	0	9
Club foot	6	0	2	0	1	0	0	0	0	0	0	0	9
Diaphragmatic hernia	1	0	0	0	1	0	0	0	0	0	0	0	2
Other musculoskeletal anomalies	10	1	8	2	8	8	0	0	0	2	0	1	40
Down's syndrome	1	0	2	1	0	2	0	0	1	0	0	0	7
Other chromosomal anomalies	2	0	1	0	0	1	0	0	0	0	0	0	4
Hemangioma	3	0	3	0	3	0	0	0	0	1	0	0	10
Nevus	2	0	4	1	4	0	1	2	1	0	2	2	19
Simian crease	0	1	2	1	3	0	0	0	0	0	0	1	8
Skin tag	6	0	10	0	2	1	0	2	0	1	0	0	22
Other skin anomalies	5	0	5	2	3	1	0	0	1	0	0	0	17
Total anomalies	93	2	75	15	62	38	1	9	6	9	4	12	326
Total births with at least one anomaly	78	1	67	13	45	34	1	9	6	7	4	12	277

TABLE 7
TYPE OF FACILITY BY ATTENDANT BY ETHNICITY OF CHILD
1989

FACILITY	ATTENDANT	ETHNICITY OF CHILD													
		Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown
Hospital	Doctor	4124	36	6096	779	3050	2266	85	351	486	87	955	91	598	8
	Osteopath	2	-	-	-	-	1	-	-	-	-	-	-	-	-
	CNM	3	1	63	1	5	-	-	-	-	-	-	-	1	-
	Other Midwife	6	-	15	1	1	-	-	-	3	-	-	-	2	-
	Total	4135	37	6174	781	3056	2267	85	351	489	87	955	91	601	8
Residence	Doctor	5	-	6	1	4	2	-	-	-	-	-	1	-	-
	CNM	1	-	-	-	-	-	-	-	-	-	-	-	-	-
	Naturopath	8	-	-	-	-	1	-	-	-	-	-	-	-	1
	Other Midwife	94	-	22	4	6	13	2	1	3	1	5	-	7	1
	Other	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	111	0	28	5	10	16	2	1	3	1	5	1	7	2
Other Than Hosp. or Res.	Doctor	-	-	13	-	1	-	1	-	-	-	-	1	-	1
	Osteopath	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	Other Midwife	2	-	4	-	1	-	-	-	-	-	-	-	-	-
	Total	2	0	17	0	2	0	1	0	0	0	0	1	0	2
All	Doctor	4129	36	6115	780	3055	2268	86	351	486	87	955	93	598	9
	Osteopath	2	-	-	-	-	1	-	-	-	-	-	-	-	1
	CNM	4	1	63	1	5	-	-	-	-	-	-	-	1	-
	Naturopath	8	-	-	-	-	1	-	-	-	-	-	-	-	1
	Other Midwife	102	-	41	5	8	13	2	1	6	1	5	-	9	1
	Other	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	4248	37	6219	786	3068	2283	88	352	492	88	960	93	608	12

TABLE 8
LEGITIMACY BY ETHNICITY OF MOTHER
RESIDENTS
1989

LEGITIMACY	ETHNICITY OF MOTHER														
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown	Total
Legitimate	4881	71	2440	709	2548	2115	70	382	315	128	578	67	406	7	14717
Illegitimate	751	46	2041	52	797	328	45	36	180	70	103	19	143	7	4618
Total	5632	117	4481	761	3345	2443	115	418	495	198	681	86	549	14	19335

TABLE 9
ETHNICITY OF FATHER BY ETHNICITY OF MOTHER
RESIDENTS
1989

ETHNICITY OF FATHER	ETHNICITY OF MOTHER														
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown	Total
Caucasian	3843	22	352	110	430	334	21	106	20	22	49	7	102	1	5419
Hawaiian	33	21	70	1	14	5	0	1	1	2	0	0	2	0	150
Part-Hawaiian	465	30	1946	72	477	352	20	28	39	62	8	3	73	0	3575
Chinese	73	0	65	361	38	148	0	16	1	4	1	2	3	0	712
Filipino	250	10	486	24	1782	177	10	16	8	31	1	2	23	0	2820
Japanese	227	3	298	128	163	1212	2	63	2	19	3	2	14	0	2136
Puerto Rican	41	0	71	1	28	6	22	1	1	3	1	3	1	0	179
Korean	18	0	17	7	7	31	0	166	0	2	2	1	1	0	252
Samoan	42	5	142	4	17	14	1	0	248	3	3	0	16	0	495
Portuguese	44	5	103	9	36	27	3	0	1	14	0	0	5	0	247
Black	134	2	62	4	50	27	13	8	31	3	543	2	15	0	894
Vietnamese	6	0	2	6	4	3	0	0	1	0	0	50	0	0	72
Other	95	3	112	14	47	23	1	1	17	6	6	1	225	1	552
Unknown	361	16	755	20	252	84	22	12	125	27	64	13	69	12	1832
Total	5632	117	4481	761	3345	2443	115	418	495	198	681	86	549	14	19335

TABLE 10
ILLEGITIMATE BIRTHS
ISLAND OF MOTHER BY ETHNICITY OF MOTHER
RESIDENTS, 1989

	ISLAND						
ETHNICITY	HAWAII	OAHU	KAUAI	LANAI	MAUI	MOLOKAI	TOTAL
Caucasian	138	462	48	0	102	1	751
Hawaiian	11	21	4	0	9	1	46
Part-Hawaiian	340	1378	94	1	184	44	2041
Chinese	0	47	3	0	2	0	52
Filipino	100	549	65	2	75	6	797
Japanese	39	244	15	0	30	0	328
Puerto-Rican	9	30	0	0	6	0	45
Korean	2	32	0	0	2	0	36
Samoan	4	172	2	0	2	0	180
Portuguese	12	41	8	0	8	1	70
Black	6	94	1	0	2	0	103
Vietnamese	0	18	0	0	1	0	19
Other	20	116	1	0	6	0	143
Unknown	1	4	1	0	1	0	7
Total	682	3208	242	3	430	53	4618

TABLE 11
ILLEGITIMATE LIVE BIRTHS
BIRTHWEIGHT AND ETHNICITY OF MOTHER
RESIDENTS, 1989

	BIRTHWEIGHT (In Grams)												
ETHNICITY OF MOTHER	<500	500-999	1000-1499	1500-1999	2000-2499	2500-2999	3000-3499	3500-3999	4000-4499	4500-4,999	5000+	Unk	Total
Caucasian	2	6	5	9	35	147	275	203	60	8	0	1	751
Hawaiian	0	0	1	1	1	12	14	13	2	1	1	0	46
Part-Hawaiian	6	8	10	36	121	473	769	487	109	17	2	3	2041
Chinese	0	0	1	0	1	12	26	8	2	1	0	1	52
Filipino	1	5	8	21	64	206	326	124	36	1	1	4	797
Japanese	0	2	2	6	14	82	139	66	17	0	0	0	328
Puerto Rican	0	0	1	0	2	9	20	11	1	1	0	0	45
Korean	0	0	0	0	4	9	13	9	1	0	0	0	36
Samoan	0	2	0	1	6	23	64	60	17	5	2	0	180
Portuguese	0	0	0	1	3	15	29	19	3	0	0	0	70
Black	0	1	1	1	8	21	40	21	10	0	0	0	103
Vietnamese	0	0	0	0	1	5	7	6	0	0	0	0	19
Other	0	1	2	3	9	23	54	41	8	1	1	0	143
Unknown	0	0	0	0	0	2	0	0	0	0	0	0	2
Total	9	25	31	80	269	1040	1777	1070	266	35	7	9	4618

TABLE 12
ETHNICITY OF MOTHER BY AGE OF MOTHER
RESIDENTS
1989

ETHNICITY OF MOTHER	AGE OF MOTHER												
	Under 14	14	15	16-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	Un-known	Total
Caucasian	0	1	6	70	264	1540	1784	1255	608	101	3	0	5632
Hawaiian	0	0	1	2	10	26	41	20	13	3	1	0	117
Part-Hawaiian	1	11	24	253	540	1574	1212	619	209	37	1	0	4481
Chinese	0	1	1	4	9	87	221	287	129	21	1	0	761
Filipino	1	6	24	116	258	877	1036	702	272	53	0	0	3345
Japanese	0	1	4	20	73	312	669	869	425	67	2	1	2443
Puerto Rican	0	0	0	7	5	44	33	22	4	0	0	0	115
Korean	0	0	0	2	7	72	126	156	46	9	0	0	418
Samoan	1	2	1	15	47	161	150	74	36	7	1	0	495
Portuguese	0	1	0	7	17	54	63	43	12	1	0	0	198
Black	0	0	1	9	43	298	228	80	20	2	0	0	681
Vietnamese	0	0	0	3	3	24	18	21	14	3	0	0	86
Other	0	0	2	16	46	172	162	97	49	5	0	0	549
Unknown	0	0	0	1	1	3	6	1	2	0	0	0	14
Total	3	23	64	525	1323	5244	5749	4246	1839	309	9	1	19335

TABLE 13
ETHNICITY OF MOTHER BY MONTH PRENATAL VISITS BEGAN
RESIDENTS
1989

ETHNICITY OF MOTHER	MONTH PRENATAL VISITS BEGAN											
	None	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Un-known	Total
Caucasian	29	1073	2209	1155	440	202	136	96	43	28	221	5632
Hawaiian	3	17	26	13	18	7	9	6	5	4	9	117
Part-Hawaiian	34	464	1329	877	500	302	216	141	100	54	464	4481
Chinese	0	150	323	130	29	23	11	20	11	4	60	761
Filipino	9	402	1093	722	322	207	136	90	61	31	272	3345
Japanese	6	496	1038	429	116	63	52	30	23	9	181	2443
Puerto Rican	0	15	43	23	13	4	3	5	1	0	8	115
Korean	1	64	161	74	35	20	13	7	11	3	29	418
Samoan	6	26	88	71	53	45	39	26	29	21	91	495
Portuguese	2	33	84	30	18	6	6	9	2	0	8	198
Black	1	101	239	154	70	56	18	12	7	11	12	681
Vietnamese	0	19	22	12	8	3	3	3	2	1	13	86
Other	5	43	160	96	50	43	32	28	23	4	65	549
Unknown	1	1	2	1	1	3	2	3	0	0	0	14
Total	97	2904	6817	3787	1673	984	676	476	318	170	1433	19335

TABLE 14
AGE OF FATHER BY AGE OF MOTHER
RESIDENTS
1989

AGE OF FATHER	AGE OF MOTHER												
	Under 14	14	15	16-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	Un-known	Total
14	0	0	0	1	0	0	0	0	0	0	0	0	1
15	1	0	1	3	2	0	0	0	0	0	0	0	7
16-17	0	6	6	46	40	7	0	0	0	0	0	0	105
18-19	0	4	16	129	240	117	8	1	0	0	0	0	515
20-24	0	2	14	156	599	2198	470	72	18	4	0	0	3533
25-29	0	0	2	26	121	1638	2562	510	100	13	0	1	4973
30-34	0	0	0	6	30	457	1564	1870	323	27	0	0	4277
35-39	0	0	1	1	4	109	493	1072	754	66	2	0	2502
40-44	0	0	0	1	3	55	165	354	403	110	2	0	1093
45-49	0	0	0	0	0	12	50	94	102	51	5	0	314
Over 49	0	0	0	0	0	7	32	52	57	27	0	0	175
Unknown	2	11	24	156	284	644	405	221	82	11	0	0	1840
Total	3	23	64	525	1323	5244	5749	4246	1839	309	9	1	19335

TABLE 15
AGE OF MOTHER BY MONTH PRENATAL VISITS BEGAN
RESIDENTS
1989

AGE OF MOTHER	MONTH PRENATAL VISITS BEGAN											
	None	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Un-known	Total
Under 14	0	0	0	0	0	0	2	1	0	0	0	3
14	1	0	4	3	3	2	3	2	1	0	4	23
15	1	2	7	9	11	12	9	3	3	3	4	64
16-17	2	28	98	103	76	49	42	27	15	12	73	525
18-19	6	98	304	283	165	118	90	60	31	21	147	1323
20-24	26	611	1684	1078	541	346	236	152	102	60	408	5244
25-29	32	906	2123	1180	478	273	157	128	74	41	357	5749
30-34	19	791	1757	767	271	123	90	67	62	23	276	4246
35-39	10	[illegible]	712	311	107	50	39	28	24	7	137	1839
40-44	0	54	125	50	21	11	7	8	6	3	24	309
45-49	0	0	3	3	0	0	0	0	0	0	3	9
Unknown	0	0	0	0	0	0	1	0	0	0	0	1
Total	97	2904	6817	3787	1673	984	676	476	318	170	1433	19335

TABLE 16
RESIDENCE OF MOTHER BY MONTH PRENATAL VISITS BEGAN
RESIDENTS
1989

MOTHER'S RESIDENT AREA	MONTH PRENATAL VISITS BEGAN											
	None	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Un-known	Total
HAWAII COUNTY	22	389	682	346	193	92	70	52	27	12	122	2007
City of Hilo	6	125	256	115	56	26	23	15	5	1	13	641
Rest of HI Cnty.	16	264	426	231	137	66	47	37	22	11	109	1366
HON. COUNTY	45	2150	5275	2804	1224	735	508	355	247	149	1244	14736
Honolulu District	13	823	1963	971	404	259	183	155	111	67	585	5534
Rest of Hon. Cnty.	32	1327	3312	1833	820	476	325	200	136	82	659	9202
KAUAI COUNTY	8	40	293	252	112	54	48	26	7	2	19	861
Island of Kauai	7	40	293	252	112	54	48	26	7	2	19	860
Island of Niihau	1	0	0	0	0	0	0	0	0	0	0	1
MAUI COUNTY	22	325	567	385	144	103	50	43	37	7	48	1731
Island of Lanai	0	3	6	4	5	1	1	1	0	1	1	23
Island of Maui	19	318	529	349	124	87	45	32	31	3	41	1578
Island of Molokai	3	4	32	32	15	15	4	10	6	3	6	130
Total	97	2904	6817	3787	1673	984	676	476	318	170	1433	19335

TABLE 17
BIRTHWEIGHT BY MONTH PRENATAL VISITS BEGAN
RESIDENTS
1989

BIRTH-WEIGHT	MONTH PRENATAL VISITS BEGAN											
	None	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	Un-known	Total
Under 500	0	4	3	4	1	0	0	0	0	0	13	25
500-999	4	5	9	11	3	2	1	0	0	0	31	66
1000-1499	2	14	23	14	5	3	4	1	0	0	40	106
1500-1999	2	23	57	51	15	14	7	2	2	2	70	245
2000-2499	9	158	266	164	80	53	24	30	19	7	125	935
2500-2999	23	491	1295	746	348	177	154	102	69	42	347	3794
3000-3499	35	1167	2686	1422	611	372	270	181	126	75	450	7395
3500-3999	8	785	1903	1025	446	277	162	114	80	37	275	5112
4000-4499	10	208	485	298	138	76	48	40	18	5	60	1386
4500-4999	1	43	79	39	22	8	4	2	3	1	14	216
Over 4999	0	4	10	9	4	1	2	2	1	0	2	35
Unknown	3	2	1	4	0	1	0	2	0	1	6	20
Total	97	2904	6817	3787	1673	984	676	476	318	170	1433	19335

TABLE 18
BIRTHWEIGHT BY ETHNICITY OF MOTHER
RESIDENTS
1989

	ETHNICITY OF MOTHER														
BIRTH-WEIGHT	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Portuguese	Black	Vietnamese	Other	Unknown	Total
Under 500	4	0	10	3	3	2	0	1	0	0	1	0	1	0	25
500-999	20	0	17	3	10	6	0	1	2	0	5	0	2	0	66
1000-1499	30	1	24	2	21	13	1	3	1	2	6	0	2	0	106
1500-1999	56	2	63	5	49	33	0	4	3	2	19	0	8	1	245
2000-2499	208	1	227	38	220	134	5	18	11	4	43	6	20	0	935
2500-2999	818	23	903	160	884	593	31	58	56	39	135	20	67	7	3794
3000-3499	1993	38	1681	348	1338	1030	41	166	161	85	270	40	203	1	7395
3500-3999	1799	42	1184	167	659	518	30	128	176	50	167	18	171	3	5112
4000-4499	589	7	316	32	137	102	5	33	60	14	33	2	54	2	1386
4500-4999	97	2	41	2	16	10	2	5	22	2	2	0	15	0	216
Over 4999	11	1	8	0	4	1	0	1	3	0	0	0	6	0	35
Unknown	7	0	7	1	4	1	0	0	0	0	0	0	0	0	20
Total	5632	117	4481	761	3345	2443	115	[illegible]	495	198	681	86	549	14	19335

TABLE 19
BIRTHWEIGHT BY AGE OF MOTHER
RESIDENTS
1989

	AGE OF MOTHER												
BIRTH-WEIGHT	Under 14	14	15	16-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	Unknown	Total
Under 500	0	0	0	0	3	10	5	5	2	0	0	0	25
500-999	0	1	1	7	8	18	17	9	5	0	0	0	66
1000-1499	0	0	1	3	3	31	28	24	14	2	0	0	106
1500-1999	1	0	1	10	29	70	62	45	25	2	0	0	245
2000-2499	1	1	4	28	58	245	273	217	85	22	1	0	935
2500-2999	0	3	15	133	309	1046	1112	778	333	62	3	0	3794
3000-3499	0	16	28	197	490	2022	2203	1638	697	101	3	0	7395
3500-3999	1	1	10	115	349	1357	1547	1155	489	86	1	1	5112
4000-4499	0	1	4	28	65	381	410	318	151	27	1	0	1386
4500-4999	0	0	0	3	8	45	79	44	31	6	0	0	216
Over 4999	0	0	0	1	0	11	8	10	4	1	0	0	35
Unknown	0	0	0	0	1	8	5	3	3	0	0	0	20
Total	3	23	64	525	1323	5244	5749	4246	1839	309	9	1	19335

TABLE 20
ETHNICITY OF MOTHER BY NUMBER OF CHILDREN PREVIOUSLY BORN TO MOTHER
RESIDENTS
1989

ETHNICITY OF MOTHER	NUMBER OF CHILDREN PREVIOUSLY BORN TO MOTHER												
	0	1	2	3	4	5	6	7	8	9	10 or more	Un-known	Total
Caucasian	2558	1794	854	289	88	36	3	3	2	2	2	1	5632
Hawaiian	28	32	21	18	4	6	5	2	0	0	1	0	117
Part-Hawaiian	1643	1292	878	413	140	71	24	11	2	3	3	1	4481
Chinese	390	240	87	31	9	2	0	2	0	0	0	0	761
Filipino	1409	1054	594	180	68	27	7	2	3	0	1	0	3345
Japanese	1123	882	325	83	20	7	2	1	0	0	0	0	2443
Puerto Rican	35	38	22	15	3	2	0	0	0	0	0	0	115
Korean	197	152	59	8	2	0	0	0	0	0	0	0	418
Samoan	154	125	78	65	36	19	6	4	4	3	1	0	495
Portuguese	76	45	53	17	5	0	1	0	1	0	0	0	198
Black	270	242	125	34	7	1	2	0	0	0	0	0	681
Vietnamese	31	25	17	9	1	1	0	2	0	0	0	0	86
Other	225	140	92	40	28	10	8	4	0	0	2	0	549
Unknown	3	6	1	2	0	0	0	0	0	0	0	2	14
Total	8142	6067	3206	1204	411	182	58	31	12	8	10	4	19335

TABLE 21
GESTATION (EST. IN WEEKS) BY 5 MINUTE APGAR SCORE
RESIDENTS
1989

GESTATION (EST. IN WKS.)	5 MINUTE APGAR SCORE												
	0	1	2	3	4	5	6	7	8	9	10	Un-known	Total
Under 20	2	5	0	0	0	0	1	0	0	0	0	1	9
20-21	1	10	1	0	0	0	0	0	0	2	0	1	15
22-23	3	6	3	2	0	2	2	4	1	0	0	1	24
24-25	0	0	1	1	3	2	5	7	7	7	0	1	34
26-27	1	1	0	3	0	0	[illegible]	5	6	12	3	1	37
28-30	1	0	2	2	2	3	12	10	33	47	3	1	116
31-33	0	0	1	1	2	3	8	17	52	131	1	3	219
34-37	0	2	0	1	1	4	9	45	236	1832	110	9	2249
38-40	1	5	2	6	6	13	38	113	762	11210	731	63	12950
Over 40	0	1	0	0	1	10	9	38	224	2710	175	20	3188
Unknown	0	1	0	0	1	1	2	14	45	394	19	17	494
Total	9	31	10	16	16	38	91	253	1366	16345	1042	118	19335

TABLE 22
RESIDENCE OF MOTHER BY 5 MINUTE APGAR SCORE
RESIDENTS
1989

MOTHER'S RESIDENT AREA	5 MINUTE APGAR SCORE												
	0	1	2	3	4	5	6	7	8	9	10	Un-known	Total
HAWAII COUNTY	1	2	1	0	0	3	13	32	121	1367	431	36	2007
City of Hilo	0	0	1	0	0	0	1	7	26	430	171	5	641
Rest of HI Cnty.	1	2	0	0	0	3	12	25	95	937	260	31	1366
HON. COUNTY	7	26	8	13	13	29	68	196	1020	12780	521	55	14736
Honolulu District	2	5	1	6	5	7	22	84	347	4868	170	17	5534
Rest of Hon. Cnty.	5	21	7	7	8	22	46	112	673	7912	351	38	9202
KAUAI COUNTY	0	1	0	2	3	4	7	11	88	701	34	10	861
Island of Kauai	0	1	0	2	3	4	7	11	88	701	34	9	860
Island of Niihau	0	0	0	0	0	0	0	0	0	0	0	1	1
MAUI COUNTY	1	2	1	1	0	2	3	14	137	1497	56	17	1731
Island of Lanai	0	0	0	0	0	0	0	0	3	19	1	0	23
Island of Maui	1	2	1	1	0	2	2	12	124	1386	31	16	1578
Island of Molokai	0	0	0	0	0	0	1	2	10	92	24	1	130
Total	9	31	10	16	16	38	91	253	1366	16345	1042	118	19335

TABLE 23
PLURALITY BY SEX BY ETHNICITY OF MOTHER
RESIDENTS
1989

ETHNICITY OF MOTHER	PLURALITY							
	Single		Multiple		Other/Unknown		Total	
	Sex		Sex		Sex		Sex	
	Male	Female	Male	Female	Male	Female	Male	Female
Caucasian	2834	2644	75	78	1	0	2910	2722
Hawaiian	52	59	3	3	0	0	55	62
Part-Hawaiian	2268	2116	35	61	0	1	2303	2178
Chinese	384	363	10	4	0	0	394	367
Filipino	1683	1613	22	25	2	0	1707	1638
Japanese	1196	1182	45	19	1	0	1242	1201
Puerto Rican	54	57	0	4	0	0	54	61
Korean	222	186	6	4	0	0	228	190
Samoan	215	270	6	4	0	0	221	274
Portuguese	99	99	0	0	0	0	99	99
Black	339	320	6	16	0	0	345	336
Vietnamese	52	34	0	0	0	0	52	34
Other	274	260	5	9	1	0	280	269
Unknown	5	9	0	0	0	0	5	9
Total	9677	9212	213	227	5	1	9895	9440

TABLE 24
MATERNAL SMOKING AND BIRTHWEIGHT
RESIDENTS
1989

	DOES MOTHER SMOKE?			
BIRTHWEIGHT	Yes	No	Unknown	Total
< 500	4	17	4	25
500-999	8	53	5	66
1000-1499	15	84	7	106
1500-1999	35	194	16	245
2000-2499	178	726	31	935
2500-2999	589	3138	67	3794
3000-3499	817	6439	139	7395
3500-3999	451	4577	84	5112
4000-4499	79	1292	15	1386
4500-4999	10	204	2	216
5000 +	0	35	0	35
Unknown	3	16	1	20
Total	2189	16775	371	19335

TABLE 25
MILITARY STATUS OF PARENTS BY ETHNICITY OF CHILD
RESIDENTS, 1989

	MILITARY STATUS			
ETHNICITY OF CHILD	One or Both Parents in Military	Neither Parent in Military	Unknown	Total
Caucasian	2307	1615	326	4248
Hawaiian	1	20	16	37
Part-Hawaiian	194	5272	753	6219
Chinese	22	744	20	786
Filipino	364	2453	252	3069
Japanese	97	2101	85	2283
Puerto Rican	27	39	22	88
Korean	76	264	12	352
Samoan	40	327	125	492
Portuguese	1	61	26	88
Black	779	150	31	960
Vietnamese	5	75	13	93
Other	110	428	70	608
Unknown	2	1	9	12
Total	4025	13550	1760	19335

TABLE 26
HAWAII RESIDENT BIRTHS OCCURRING OUTSIDE THE STATE BY AGE AND ETHNICITY OF MOTHER AND SEX OF CHILDa/
1989

	ETHNICITY OF MOTHER AND SEX OF CHILD																			
	Caucasian		Japanese		Chinese		Filipino		Hawaiian/ Part-Hawaiian		Korean		Black		Other Pac. Is.		Other & Unk.		Total	
AGE OF MOTHER	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 - 19	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	1
20 - 24	1	4	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	4
25 - 29	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	5	3
30 - 34	3	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	3	2
35 - 39	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2
40 & Over	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Total	11	7	-	-	-	-	1	1	1	1	-	-	-	-	-	1	-	1	13	13

Note: a/ Includes births occurring in other states and Guam for those births reported to the Hawaii Department of Health by other health departments.

TABLE 27
STANDARD FETAL DEATHS BY PLACE OF OCCURRENCE AND RESIDENCE OF MOTHER
1989

GEOGRAPHIC AREA	PLACE OF OCCURRENCE		PLACE OF RESIDENCE		
	Number	Ratio a/	Number	Ratio a/	Rate b/
County of Hawaii	160	84.7	164	81.7	75.5
City of Hilo	155	126.9	68	106.1	95.9
Rest of HI County	5	7.5	96	70.3	65.7
City & County of Honolulu	1121	74.2	1085	73.6	68.6
Honolulu District	979	71.8	418	75.5	70.2
Rest of Honolulu County	142	96.5	667	72.5	67.6
Kalawao	0	-	1	-	-
County of Kauai	102	124.5	91	105.7	95.6
Island of Kauai	102	124.7	91	105.8	95.7
Island of Niihau	0	0.0	0	0.0	0.0
County of Maui	139	86.0	128	73.9	68.9
Island of Lanai	0	0.0	0	0.0	0.0
Island of Maui	138	90.6	126	79.8	73.9
Island of Molokai	1	11.9	2	15.4	15.2
Non-Resident	-	-	49	526.9	345.1
Unknown	-	-	4	-	-
Total	1522	78.3	1522	78.3	72.6

Notes: a/ The ratio is the number of fetal deaths per 1,000 live births.
b/ The rate is the number of fetal deaths per 1,000 live births plus fetal deaths.

TABLE 28
STANDARD FETAL DEATHS BY RESIDENCE OF MOTHER AND GESTATION
1989

GEOGRAPHIC AREA OF RESIDENCE	GESTATION PERIOD IN WEEKS											
	Under 12	12	13	14	15	16-19	20-27	28-35	36-39	40 & Over	Unknown	Total
County of Hawaii	124	7	4	1	2	10	6	2	1	1	6	164
City of Hilo	52	3	3	1	0	4	3	1	0	0	1	68
Rest of HI County	72	4	1	0	2	6	3	1	1	1	5	96
City & County of Honolulu	687	112	41	42	26	50	39	26	14	6	42	1085
Honolulu District	264	45	14	13	12	17	10	15	8	1	19	418
Rest of Honolulu County	423	67	27	29	14	33	29	11	6	5	23	667
Kalawao	0	0	0	0	0	0	1	0	0	0	0	1
County of Kauai	68	5	4	3	2	4	4	0	0	0	1	91
Island of Kauai	68	5	4	3	2	4	4	0	0	0	1	91
Island of Niihau	0	0	0	0	0	0	0	0	0	0	0	0
County of Maui	90	9	4	2	3	3	5	3	5	1	3	128
Island of Lanai	0	0	0	0	0	0	0	0	0	0	0	0
Island of Maui	90	9	4	1	3	3	4	3	5	1	3	126
Island of Molokai	0	0	0	1	0	0	1	0	0	0	0	2
Non-Resident	32	4	1	2	0	3	4	2	1	0	0	49
Unknown	2	2	0	0	0	0	0	0	0	0	0	4
Total	1003	139	54	50	33	70	59	33	21	8	52	1522

TABLE 29
STANDARD FETAL DEATHS BY RESIDENCE OF MOTHER AND ETHNICITY
1989

GEOGRAPHIC AREA OF MOTHER	ETHNICITY OF FETUS														
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Black	Portuguese	Vietnamese	Other	Unknown	Total
County of Hawaii	38	2	56	0	16	31	1	1	0	2	4	1	11	1	164
City of Hilo	11	1	22	0	5	19	1	0	0	1	2	1	5	0	68
Rest of HI County	27	1	34	0	11	12	0	1	0	1	2	0	6	1	96
City & County of Honolulu	393	22	131	46	118	124	0	25	19	67	0	6	14	120	1085
Honolulu District	120	2	43	28	50	68	0	15	8	24	0	3	6	51	418
Rest of Hon. County	273	20	88	18	68	56	0	10	11	43	0	3	8	69	667
Kalawao	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
County of Kauai	40	4	20	0	17	7	0	0	0	0	3	0	0	0	91
Island of Kauai	40	4	20	0	17	7	0	0	0	0	3	0	0	0	91
Island of Niihau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
County of Maui	52	1	24	1	20	11	1	1	1	1	3	0	6	6	128
Island of Lanai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Island of Maui	52	1	22	1	20	11	1	1	1	1	3	0	6	6	126
Island of Molokai	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Non-Resident	38	0	0	0	1	3	0	0	1	3	0	0	1	2	49
Unknown	1	0	1	0	1	1	0	0	0	0	0	0	0	0	4
Total	563	29	232	47	173	177	2	27	21	73	10	7	32	129	1522

TABLE 30
STANDARD FETAL DEATHS BY AGE AND ETHNICITY OF MOTHER
1989

AGE OF MOTHER	ETHNICITY OF MOTHER														
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Black	Portuguese	Vietnamese	Other	Unknown	Total
Under 15	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
15 - 17	8	2	13	0	7	2	0	0	2	0	1	0	2	3	40
18 - 19	24	4	23	0	9	6	1	1	1	4	0	1	4	12	90
20 - 24	124	13	59	3	49	15	2	4	4	29	1	0	5	33	341
25 - 34	291	13	84	33	87	90	0	19	12	28	7	4	17	58	743
35 - 39	85	4	10	8	28	44	0	5	2	3	4	2	4	16	215
40 - 44	31	2	4	5	9	15	0	2	0	1	0	0	0	6	75
45 - 49	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
50 & Over	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Unknown	4	0	2	0	0	4	0	1	0	0	0	0	0	2	13
Total	568	38	195	49	189	176	3	32	21	65	13	7	34	132	1522

TABLE 31
STANDARD FETAL DEATHS BY AGE OF MOTHER AND GESTATION
1989

AGE OF MOTHER	GESTATION PERIOD IN WEEKS											
	Under 12	12	13	14	15	16-19	20-27	28-35	36-39	40 & Over	Un-known	Total
Under 15	2	0	0	0	0	0	0	0	0	0	0	2
15 - 17	22	3	1	1	2	3	5	0	2	0	1	40
18 - 19	60	9	5	3	0	4	2	3	2	0	2	90
20 - 24	214	26	16	16	5	18	10	12	5	2	17	341
25 - 29	243	37	15	13	15	21	19	9	5	4	14	395
30 - 34	239	36	9	6	8	15	13	7	4	1	10	348
35 - 39	156	18	4	9	2	7	9	2	2	1	5	215
40 - 44	56	9	4	0	1	2	1	0	0	0	2	75
45 - 49	0	1	0	1	0	0	0	0	0	0	0	2
50 & Over	1	0	0	0	0	0	0	0	0	0	0	1
Unknown	10	0	0	1	0	0	0	0	1	0	1	13
Total	1003	139	54	50	33	70	59	33	21	8	52	1522

TABLE 32
STANDARD FETAL DEATHS BY CAUSE OF DEATH AND GESTATION
1989

CAUSE OF DEATH	GESTATION PERIOD IN WEEKS											
	Under 12	12	13	14	15	16-19	20-27	28-35	36-39	40 & Over	Un-known	Total
Spontaneous Abortion	477	70	22	21	12	28	3	0	0	0	20	653
All Other Abortions	221	43	15	18	16	9	3	1	0	0	5	331
Congenital Anomalies	1	0	0	0	0	1	1	1	1	1	0	6
Chronic Circulatory, Respiratory, & Genitourinary Diseases in Mother	0	0	0	0	0	0	3	4	0	1	0	8
Maternal Conditions Unrelated to Prenancy	2	2	2	0	0	1	2	0	0	0	0	9
Complications of Pregnancy & Childbirth	167	3	3	2	1	4	11	2	1	0	19	213
Complications of Placenta, Cord and Membranes	37	8	4	0	0	8	6	8	11	3	1	86
Other Conditions of Fetus	0	0	0	0	0	0	1	0	0	1	0	2
Other Causes	4	5	0	1	0	2	1	4	0	0	0	17
Unknown	94	8	8	8	4	17	28	13	8	2	7	197
Total	1003	139	54	50	33	70	59	33	21	8	52	1522

TABLE 33
ELECTIVE ABORTIONS BY PLACE OF OCCURRENCE AND RESIDENCE OF PATIENT
1989

GEOGRAPHIC AREA	PLACE OF OCCURRENCE		PLACE OF RESIDENCE		
	Number	Percent	Number	Percent	Ratio a/
County of Hawaii	212	4.0	269	5.1	134.0
City of Hilo	194	3.6	133	2.5	207.5
Rest of HI County	18	0.3	136	2.6	99.6
City & County of Honolulu	4536	85.3	4301	80.9	291.9
Honolulu District	3637	68.4	2552	48.0	461.1
Rest of Honolulu County	899	16.9	1749	32.9	190.1
Kalawao	0	0.0	0	0.0	0.0
County of Kauai	203	3.8	288	5.4	334.5
Island of Kauai	203	3.8	288	5.4	334.9
Island of Niihau	0	0.0	0	0.0	0.0
County of Maui	365	6.9	422	7.9	243.8
Island of Lanai	0	0.0	6	0.1	260.9
Island of Maui	365	6.9	411	7.7	260.5
Island of Molokai	0	0.0	5	0.1	38.5
Non-Resident	-	-	28	0.5	301.1
Unknown	-	-	8	0.2	-
Total	5316	100.0	5316	100.0	273.6

Note: a/ The ratio is the number of elective abortions per 1,000 live births.

TABLE 34
ELECTIVE ABORTIONS BY AGE AND ETHNICITY OF PATIENT
1989

AGE OF PATIENT	ETHNICITY OF PATIENT															
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Black	Portuguese	Vietnamese	Other	Unknown	Total	Percent
Under 15	8	2	8	1	15	3	0	0	2	0	1	1	1	12	54	1
15 - 17	88	26	51	13	77	75	0	13	7	5	1	1	7	63	427	8
18 - 19	174	36	70	17	109	103	0	7	12	11	4	4	10	56	613	12
20 - 24	442	83	166	58	300	205	2	29	38	53	12	6	31	198	1623	31
25 - 29	412	35	120	46	247	154	2	45	15	20	16	7	28	129	1276	24
30 - 34	240	18	50	33	149	114	0	51	15	5	3	8	12	54	752	14
35 - 39	149	6	24	28	77	86	2	27	1	8	3	5	9	32	457	9
40 - 44	32	2	5	10	15	22	0	6	2	0	0	0	1	8	103	2
45 - 49	1	0	1	0	2	1	0	0	0	0	0	0	0	0	5	<1
50 & Over	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	<1
Unknown	1	0	0	2	0	0	0	1	0	0	0	0	0	1	5	<1
Total	1548	208	495	208	991	763	6	179	92	102	40	32	99	553	5316	100
Percent	29	4	9	4	19	14	<1	3	2	2	1	1	2	10	100	-

TABLE 35
ELECTIVE ABORTIONS BY LEGITIMACY AND ETHNICITY OF PATIENT
1989

LEGITIMACY	ETHNICITY OF PATIENT														
	Caucasian	Hawaiian	Part Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Black	Portuguese	Vietnamese	Other	Unknown	Total
Legitimate	315	37	123	75	352	175	1	54	35	26	10	7	34	125	1369
Illegitimate	1219	171	371	128	633	584	5	124	57	74	20	33	65	395	3879
Unknown	14	0	1	5	6	4	0	1	0	2	2	0	0	33	68
Total	1548	208	495	208	991	763	6	179	92	102	32	40	99	553	5316

TABLE 36
ELECTIVE ABORTIONS BY LEGITIMACY AND AGE OF PATIENT
1989

LEGITIMACY	AGE OF PATIENT											
	Under 15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50 & Over	Unknown	Total
Legitimate	0	4	39	314	415	319	221	54	2	0	1	1369
Illegitimate	52	420	563	1287	850	426	225	48	3	1	4	3879
Unknown	2	3	11	22	11	7	11	1	0	0	0	68
Total	54	427	613	1623	1276	752	457	103	5	1	5	5316

TABLE 37
ELECTIVE ABORTIONS BY GESTATION AND AGE OF PATIENT
1989

	AGE OF PATIENT											
GESTATION (WEEKS)	Under 15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50 & Over	Un-known	Total
Under 6	0	4	8	34	26	25	23	4	0	0	0	124
6	3	38	65	175	155	100	69	22	0	0	2	629
7	4	68	95	268	182	131	54	17	1	1	1	822
8	10	57	104	298	289	171	109	19	2	0	2	1061
9	5	59	66	196	147	84	49	10	0	0	0	616
10	7	66	93	222	160	82	52	7	1	0	0	690
11	5	28	35	80	70	38	17	1	0	0	0	274
12	3	29	33	98	86	46	22	8	1	0	0	326
13	4	12	16	51	41	14	10	4	0	0	0	152
14	0	7	10	31	22	16	7	2	0	0	0	95
15	0	6	9	35	20	6	6	1	0	0	0	83
16	1	15	18	38	21	8	12	3	0	0	0	116
17	0	8	12	22	11	2	4	1	0	0	0	60
18	4	11	23	30	22	9	9	2	0	0	0	110
19	5	6	13	20	14	10	6	0	0	0	0	74
20	0	7	4	12	4	5	4	0	0	0	0	36
21 & Over	3	5	4	11	4	4	3	2	0	0	0	36
Unknown	0	1	5	2	2	1	1	0	0	0	0	12
Total	54	427	613	1623	1276	752	457	103	5	1	5	5316

TABLE 38
ELECTIVE ABORTIONS BY TYPE OF PROCEDURE AND GESTATION PERIOD
1989

	GESTATION (WEEKS)														
PROCEDURE	Under 6	6	7	8	9	10	11	12	13	14	15	16	17-19	20 & Over	Un-known	Total
Suction Curettage	124	626	821	1058	613	684	273	326	152	89	76	109	224	68	11	5254
Sharp D & C	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3
Amniotic Fluid Exchange	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
Hysterotomy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hysterectomy	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Prostaglandin	0	0	0	0	0	0	0	0	0	1	4	4	12	4	1	26
Other	0	0	1	2	1	5	0	0	0	5	3	2	7	0	0	26
Unknown	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	3
Total	124	629	822	1061	616	690	274	326	152	95	83	116	244	72	12	5316

TABLE 39
CHARACTERISTICS OF PREGNANCIES
RESIDENTS
1989

CHARACTERISTIC	LIVE BIRTHS Number	FETAL DEATHS Number	FETAL DEATHS Ratio a/	FETAL DEATHS Rate b/	ABORTIONS Number	ABORTIONS Ratio a/	TOTAL PREG. Number
Ethnicity							
Caucasian	5632	531	94.3	86.2	1527	271.1	7690
Hawaiian	117	38	324.8	245.2	208	1777.8	363
Part-Hawaiian	4481	194	43.3	41.5	493	110.0	5168
Chinese	761	49	64.4	60.5	208	273.3	1018
Filipino	3345	186	55.6	52.7	988	295.4	4519
Japanese	2443	172	70.4	65.8	763	312.3	3378
Puerto Rican	115	3	26.1	25.4	6	52.2	124
Korean	418	31	74.2	69.0	178	425.8	627
Samoan	495	20	40.4	38.8	90	181.8	605
Portuguese	198	13	65.7	61.6	40	202.0	251
Black	681	62	91.0	83.4	100	146.8	843
Vietnamese	86	7	81.4	75.3	32	372.1	125
Other	549	33	60.1	56.7	97	176.7	679
Unknown	14	130	c/	c/	550	c/	694
TOTAL	19335	1469	76.0	70.6	5280	273.1	26084
Age							
Under 14	3	0	0.0	0.0	9	3000.0	12
14	23	2	87.0	80.0	44	1913.0	69
15	64	4	62.5	58.8	81	1265.6	149
16-17	525	36	68.6	64.2	343	653.3	904
18-19	1323	88	66.5	62.4	610	461.1	2021
20-24	5244	331	63.1	59.4	1613	307.6	7188
25-29	5749	384	66.8	62.6	1269	220.7	7402
30-34	4246	334	78.7	72.9	748	176.2	5328
35-39	1839	205	111.5	100.3	451	245.2	2495
40-44	309	71	229.8	186.8	101	326.9	481
Over 44	9	3	333.3	250.0	6	666.7	18
Unknown	1	11	c/	c/	5	c/	17
TOTAL	19335	1469	76.0	70.6	5280	273.1	26084
Resident County							
Hawaii	2007	164	81.7	75.5	269	134.0	2440
Honolulu	14736	1085	73.6	68.6	4301	291.9	20122
Kalawao	0	1	c/	c/	0	c/	1
Kauai	861	91	105.7	95.6	288	334.5	1240
Maui	1731	128	73.9	68.9	422	243.8	2281
TOTAL	19335	1469	76.0	70.6	5280	273.1	26084

Notes: a/ Ratio per 1,000 live births.
b/ Rate per 1,000 live births plus fetal deaths.
c/ Not applicable.

TABLE 39
PREGNANCY RATES FOR SELECTED AGE GROUPS
RESIDENTS
1989

AGE GROUP	FEMALE POPULATION	RATE PER 1000 FEMALE POPULATION
15 Years	6000	24.8
16 to 17 Years	15000	60.3
18 to 24 Years	58000	158.8
25 to 34 Years	94000	135.4
35 to 44 Years	88000	33.8

TABLE 41
MEASURES OF REPRODUCTIVE HEALTH, SUMMARY
RESIDENTS
1989

MEASURE	STATE
Crude Birth Rate	17.4
General Fertility Rate	74.1
General Pregnancy Rate	99.9
Perinatal Mortality Rate	8.9
Perinatal Mortality Ratio	9.0
Infant Mortality Rate	8.1
Neonatal Mortality Rate	4.1
Postneonatal Mortality Rate	3.9
Low Birthweight Mortality Rate	63.9
Fetal Death Rate	70.6
Fetal Death Ratio	76.0
Abortion Rate	20.2
Abortion Ratio I	273.1
Abortion Ratio II	202.4
Maternal Mortality Rate	0.0

Definitions:

Crude Birth Rate = Live births x 1000/Total population
General Fertility Rate = Live births x 1000/Population of women 15-44 years of age
General Pregnancy Rate = (Live births + fetal deaths + abortions) x 1000/Population of women 15-44 years of age
Perinatal Mortality Rate = (Infant deaths under 1 week of age + fetal deaths of 20 weeks or more gestation) x 1000/(Live births + fetal deaths of 20 weeks or more gestation)
Perinatal Mortality Ratio = (Infant deaths under 1 week of age + fetal deaths of 20 weeks or more gestation) x 1000/Live births
Infant Mortality Rate = Infant deaths x 1000/Live births
Neonatal Mortality Rate = Infant deaths under 28 days x 1000/Live births
Postneonatal Mortality Rate = Infant deaths over 27 days x 1000/Live births
Low Birthweight Mortality Rate = Infant deaths of low birthweight (under 2500 grams) x 1000/Live births of low birthweight
Fetal Death Rate = Fetal deaths x 1000/(Live births + fetal deaths)
Fetal Death Ratio = Fetal deaths x 1000/Live births
Abortion Rate = Abortions x 1000/Population of women 15-44 years of age
Abortion Ratio I = Abortions x 1000/Live births
Abortion Ratio II = Abortions x 1000/(Live births + fetal deaths + abortions)
Maternal Mortality Rate = Maternal deaths (ICD9 codes 630-676) x 100000/Live births

FIGURE 2
DEATH RATE FOR HAWAII
1900-1989

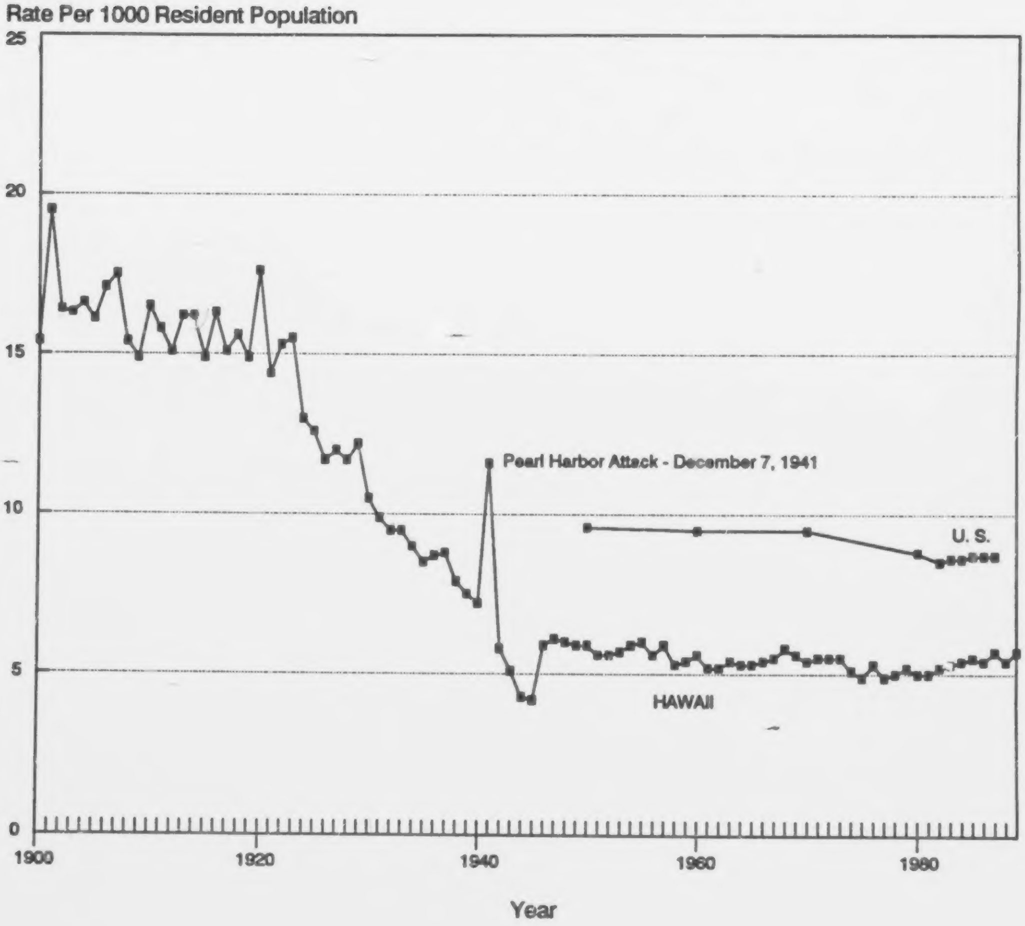


TABLE 42
DEATHS BY GEOGRAPHIC AREA OF OCCURRENCE AND RESIDENCE
1989

GEOGRAPHIC AREA	OCCURRENCE Number	OCCURRENCE Percent	RESIDENCE Number	RESIDENCE Percent	RESIDENCE Ratesa/
Hawaii County	827	12.3	845	12.6	6.9
City of Hilo	564	8.4	327	4.9	6.9
Rest of county	263	3.9	518	7.7	6.9
City and County of Honolulu	5033	74.8	4634	68.9	5.5
Honolulu District	3953	58.7	2711	40.3	7.2
Rest of county	1080	16.0	1923	28.6	4.1
Kalawao	3	<0.1	4	0.1	31.5
Kauai County	306	4.5	323	4.8	6.3
Island of Kauai	306	4.5	322	4.8	6.4
Island of Niihau	0	0.0	1	<0.1	4.8
Maui County	557	8.3	575	8.5	5.9
Island of Lanai	15	0.2	27	0.4	12.3
Island of Maui	491	7.3	489	7.3	5.6
Island of Molokai	51	0.8	59	0.9	8.8
Subtotal Residents	-	-	6381	94.8	5.7
Unknown	4	0.1	7	0.1	-
Non-Resident	-	-	342	5.1	
TOTAL	6730	100.0	6730	100.0	6.1

Note: a/ Per 1,000 residents.

TABLE 43
DEATHS BY RESIDENT COUNTY AND MONTH OF OCCURRENCE
1989

COUNTY	MONTH Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Unk	TOTAL
Hawaii	78	61	70	74	71	69	71	75	58	64	70	84	0	845
Honolulu	403	364	406	369	409	376	356	384	390	356	364	457	0	4634
Kalawao	0	0	0	2	0	0	1	1	0	0	0	0	0	4
Kauai	25	24	32	25	36	28	26	26	18	23	28	32	0	323
Maui	59	46	51	45	50	53	38	35	45	62	50	41	0	575
Non-Resident	39	34	32	29	28	31	21	27	26	27	23	25	0	342
Unknown	1	0	1	1	1	0	0	0	2	0	0	0	1	7
TOTAL	605	529	592	545	595	557	513	548	539	532	535	639	1	6730

TABLE 44
DEATHS BY COUNTY AND CHARACTERISTICS
1989

CHARACTERISTIC	HAWAII CNTY	HONOLULU CNTY	KALAWAO CNTY	KAUAI CNTY	MAUI CNTY	NON RES	UNK	TOTAL
ETHNICITY								
Caucasian	207	1141	0	68	128	235	1	1780
Hawaiian	42	153	2	8	42	0	0	247
Part-Hawaiian	110	574	0	41	84	6	1	816
Chinese	13	390	0	2	11	5	0	421
Filipino	132	587	1	63	103	12	0	898
Japanese	235	1331	0	104	141	30	1	1842
Puerto Rican	10	50	0	9	11	0	0	80
Korean	2	103	0	1	0	4	0	110
Samoan	0	86	0	1	0	10	0	97
Portuguese	86	149	1	25	52	3	0	316
Black	2	32	0	0	0	6	0	40
Vietnamese	0	6	0	0	0	0	0	6
Other	6	31	0	1	2	30	0	70
Unknown	0	1	0	0	1	1	4	7
TOTAL	845	4634	4	323	575	342	7	6730
AGE (IN YEARS)								
<1	19	111	0	12	14	14	0	170
1 to 4	4	23	0	2	3	3	0	35
5 to 9	3	10	0	0	3	1	0	17
10 to 14	0	8	0	1	6	3	0	18
15 to 17	3	11	0	1	9	1	0	25
18 to 19	5	16	0	0	2	2	0	25
20 to 24	12	53	0	1	2	10	0	78
25 to 29	13	59	0	3	8	11	1	95
30 to 34	18	86	0	11	12	24	0	151
35 to 39	23	81	0	5	21	16	0	146
40 to 44	20	102	0	7	16	14	0	159
45 to 49	27	122	0	13	29	20	1	212
50 to 54	19	148	0	11	23	17	0	218
55 to 59	39	254	0	11	23	27	0	354
60 to 64	66	367	0	25	50	31	0	539
65 to 69	84	514	0	39	47	43	0	727
70 to 74	102	519	0	27	69	36	0	753
75 to 79	119	623	3	42	67	34	1	889
80 & over	269	1526	1	112	171	35	0	2114
Unknown	0	1	0	0	0	0	4	5
TOTAL	845	4634	4	323	575	342	7	6730
SEX								
Male	524	2666	3	193	333	225	6	3950
Female	321	1968	1	130	242	117	1	2780
TOTAL	845	4634	4	323	575	342	7	6730

TABLE 45
RESIDENT DEATHS BY GEOGRAPHIC AREA AND CHARACTERISTICS
1989

	GEOGRAPHIC AREA										
	HAWAII		HONOLULU		KALAWAO						
CHARACTERISTIC	HILO	OTH.	HONO.	OTH.	COUNTY	KAUAI	NIIHAU	LANAI	MAUI	MOLO.	TOTAL
ETHNICITY											
Caucasian	54	153	733	408	0	68	0	3	116	9	1544
Hawaiian	16	26	58	95	2	7	1	1	28	13	247
Part-Hawaiian	38	72	244	330	0	41	0	1	69	14	809
Chinese	7	6	315	75	0	2	0	1	10	0	416
Filipino	30	102	249	338	1	63	0	14	74	15	886
Japanese	132	103	870	461	0	104	0	6	128	7	1811
Puerto Rican	3	7	21	29	0	9	0	0	11	0	80
Korean	1	1	71	32	0	1	0	0	0	0	106
Samoan	0	0	39	47	0	1	0	0	0	0	87
Portuguese	42	44	74	75	1	25	0	1	50	1	313
Black	1	1	13	19	0	0	0	0	0	0	34
Vietnamese	0	0	6	0	0	0	0	0	0	0	6
Other	3	3	18	13	0	1	0	0	2	0	40
Unknown	0	0	0	1	0	0	0	0	1	0	2
Total	327	518	2711	1923	4	322	1	27	489	59	6381
AGE (IN YEARS)											
<1	7	12	37	74	0	12	0	0	13	1	156
1 to 4	0	4	7	16	0	2	0	1	2	0	32
5 to 9	0	3	5	5	0	0	0	0	3	0	16
10 to 14	0	0	3	5	0	1	0	0	4	2	15
15 to 17	1	2	4	7	0	1	0	0	3	6	24
18 to 19	2	3	8	8	0	0	0	0	2	0	23
20 to 24	4	8	25	28	0	1	0	0	2	0	68
25 to 29	6	7	30	29	0	3	0	0	7	1	83
30 to 34	6	12	40	46	0	11	0	0	11	1	127
35 to 39	4	19	39	42	0	5	0	1	17	3	130
40 to 44	6	14	59	43	0	7	0	0	16	0	145
45 to 49	8	19	66	56	0	13	0	1	25	3	191
50 to 54	7	12	72	76	0	10	1	1	21	1	201
55 to 59	18	21	131	123	0	11	0	0	23	0	327
60 to 64	21	45	188	179	0	25	0	4	40	6	508
65 to 69	35	49	288	226	0	39	0	4	37	6	684
70 to 74	38	64	309	210	0	27	0	2	57	10	717
75 to 79	50	69	399	224	3	42	0	6	55	6	854
80 & over	114	155	1000	526	1	112	0	7	151	13	2079
Unknown	0	0	1	0	0	0	0	0	0	0	1
Total	327	518	2711	1923	4	322	1	27	489	59	6381
SEX											
Male	190	334	1528	1138	3	192	1	18	280	35	3719
Female	137	184	1183	785	1	130	0	9	209	24	2662
Total	327	518	2711	1923	4	322	1	27	489	59	6381

TABLE 46
RESIDENT DEATHS BY ETHNICITY, SEX AND AGE
1989

		ETHNICITY														
SEX	AGE	Cauc	Hawn	Pt-Hwn	Chin	Fili	Japn	PR	Kor	Sam	Port	Black	Viet	Other	Unk	Total
B	< 1	26	0	73	7	21	11	0	3	4	0	7	0	4	0	156
O	1 to 4	7	0	15	2	6	1	0	0	0	0	0	1	0	0	32
T	5 to 9	2	0	6	1	3	1	0	0	0	0	1	1	1	0	16
H	10 to 14	0	1	7	0	4	2	0	0	0	0	1	0	0	0	15
	15 to 17	3	1	14	0	5	1	0	0	0	0	0	0	0	0	24
S	18 to 19	5	0	6	0	6	3	0	1	1	0	1	0	0	0	23
E	20 to 24	18	2	17	3	11	5	1	2	7	0	1	0	1	0	68
X	25 to 29	23	1	24	4	7	7	1	2	6	3	2	1	2	0	83
E	30 to 34	55	1	24	4	17	13	1	2	5	1	1	0	3	0	127
S	35 to 39	48	7	24	5	16	18	1	2	3	4	1	0	1	0	130
	40 to 44	68	4	20	3	13	25	2	2	4	2	0	2	0	0	145
	45 to 49	53	16	39	7	18	35	6	2	9	3	1	0	2	0	191
	50 to 54	44	9	47	7	30	44	4	3	4	7	0	0	2	0	201
	55 to 59	79	21	71	12	44	64	4	6	6	16	0	0	4	0	327
	60 to 64	123	26	69	25	60	146	7	10	8	26	2	1	5	0	508
	65 to 69	153	29	97	45	72	204	10	18	10	35	7	0	4	0	684
	70 to 74	174	41	74	41	56	250	9	15	5	48	2	0	1	1	717
	75 to 79	202	35	73	64	156	233	15	12	6	50	3	0	5	0	854
	80 & over	461	52	109	186	341	748	19	26	9	118	4	0	5	1	2079
	Unknown	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	Total	1544	247	809	416	886	1811	80	106	87	313	34	6	40	2	6381
M	<1	15	0	47	5	14	6	0	1	3	0	4	0	2	0	97
A	1 to 4	4	0	9	2	3	0	0	0	0	0	0	0	0	0	18
L	5 to 9	0	0	3	0	1	0	0	0	0	0	1	1	1	0	7
E	10 to 14	0	1	2	0	2	2	0	0	0	0	0	0	0	0	7
	15 to 17	2	1	7	0	4	1	0	0	0	0	0	0	0	0	15
	18 to 19	4	0	4	0	6	3	0	1	0	0	1	0	0	0	19
	20 to 24	12	1	13	1	7	3	0	1	6	0	0	0	1	0	45
	25 to 29	18	0	20	3	7	5	1	2	5	2	2	1	2	0	68
	30 to 34	47	1	17	3	12	8	1	2	3	0	1	0	3	0	98
	35 to 39	40	5	17	3	13	12	1	2	2	3	0	0	0	0	98
	40 to 44	46	3	13	2	9	15	2	1	1	2	0	0	0	0	94
	45 to 49	31	11	18	4	9	21	5	0	4	2	1	0	2	0	108
	50 to 54	33	7	27	2	18	22	1	3	2	5	0	0	0	0	120
	55 to 59	50	15	35	8	25	40	3	4	3	11	0	0	3	0	197
	60 to 64	85	14	38	16	38	96	5	5	5	18	2	1	3	0	326
	65 to 69	100	18	60	29	48	125	5	9	6	22	5	0	3	0	430
	70 to 74	106	26	47	30	40	156	3	9	3	36	2	0	1	0	459
	75 to 79	107	24	35	31	136	132	9	5	4	30	2	0	2	0	517
	80 & over	185	25	40	95	254	322	6	9	2	52	1	0	3	1	995
	Unknown	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	Total	885	153	452	234	646	969	42	54	49	183	22	3	26	1	3719
F	<1	11	0	26	2	7	5	0	2	1	0	3	0	2	0	59
E	1 to 4	3	0	6	0	3	1	0	0	0	0	0	1	0	0	14
M	5 to 9	2	0	3	1	2	1	0	0	0	0	0	0	0	0	9
A	10 to 14	0	0	5	0	2	0	0	0	0	0	1	0	0	0	8
L	15 to 17	1	0	7	0	1	0	0	0	0	0	0	0	0	0	9
E	18 to 19	1	0	2	0	0	0	0	0	1	0	0	0	0	0	4
	20 to 24	6	1	4	2	4	2	1	1	1	0	1	0	0	0	23
	25 to 29	5	1	4	1	0	2	0	0	1	1	0	0	0	0	15
	30 to 34	8	0	7	1	5	5	0	0	2	1	0	0	0	0	29
	35 to 39	8	2	7	2	3	6	0	0	1	1	1	0	1	0	32
	40 to 44	22	1	7	1	4	10	0	1	3	0	0	2	0	0	51
	45 to 49	22	5	21	3	9	14	1	2	5	1	0	0	0	0	83
	50 to 54	11	2	20	5	12	22	3	0	2	2	0	0	2	0	81
	55 to 59	29	6	36	4	19	24	1	2	3	5	0	0	1	0	130
	60 to 64	38	12	31	9	22	50	2	5	3	8	0	0	2	0	182
	65 to 69	53	11	37	16	24	79	5	9	4	13	2	0	1	0	254
	70 to 74	68	15	27	11	16	94	6	6	2	12	0	0	0	1	258
	75 to 79	95	11	38	33	20	101	6	7	2	20	1	0	3	0	337
	80 & over	276	27	69	91	87	426	13	17	7	66	3	0	2	0	1084
	Total	659	94	357	182	240	842	38	52	38	130	12	3	14	1	2662

TABLE 47
COMPARISON OF CAUSES OF DEATH FOR RESIDENTS
1989, 1979

	1989			1979
Causes (ICD9 Codes)	Number	Rate Per 100,000 Res. Population	Percent	Rate Per 100,000 Res. Population
Diseases of the Heart (390-398, 402,404-429)	1977	177.8	31.0	167.6
Malignant Neoplasms (140-208)	1571	141.3	24.6	120.7
Cerebrovascular Diseases (430-438)	474	42.6	7.4	40.3
All Accidents	284	25.5	4.5	38.3
MV Accidents (810-825)	[137]	[12.3]	[2.1]	-
All Other Accidents (800-807,826-949)	[147]	[13.2]	[2.3]	-
Influenza/Pneumonia (480-487)	272	24.5	4.3	17.3
Chronic Obstructive Pulmonary Diseases (490-496)	197	17.7	3.1	-
Diabetes Mellitus (250)	149	13.4	2.3	14.0
Suicide (950-959)	119	10.7	1.9	14.0
Chronic Liver Disease & Cirrhosis (571)	76	6.8	1.2	8.3
HIV Infection (042-044)	66	5.9	1.0	-
Certain Conditions Originating in the Perinatal Period (760-779)	63	5.7	1.0	8.5
Septicemia (038)	60	5.4	0.9	-
Nephritis, Nephrotic Syndrome, and Nephrosis (580-589)	57	5.1	0.9	-
Homicide & Legal Intervention (960-978)	52	4.7	0.8	6.7
Atherosclerosis (440)	18	1.6	0.3	-
All Other Causes (Residual)	946	85.1	14.8	-
TOTAL	6381	573.8	100.0	523.8

Notes: (-) Indicates data not available or not computed previously in the given category.

FIGURE 3
FIVE LEADING CAUSES OF DEATH
RESIDENTS
1959, 1969, 1979, 1989

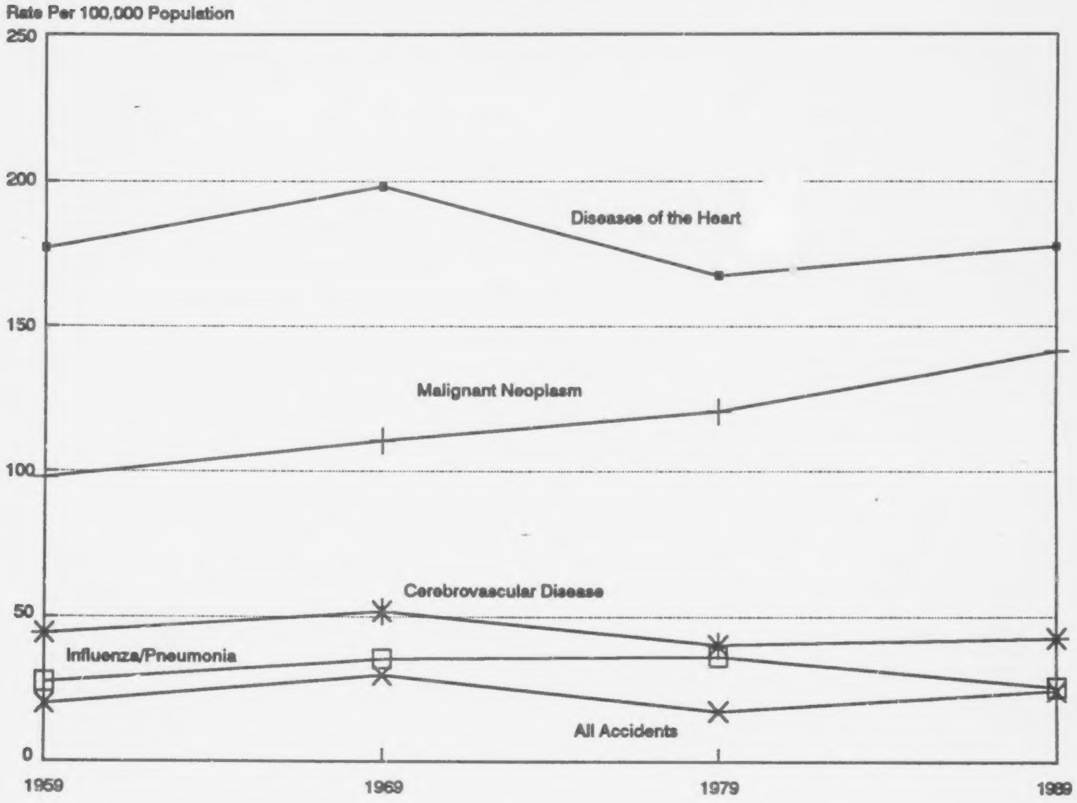


TABLE 48
RESIDENT DEATHS IN HAWAII
LEADING CAUSES OF DEATH FOR AGE GROUPS
1989

		Rate Per 100,000 Res.	Male		Female	
All Age Groups	Total	Population	No.	Pct.	No.	Pct.
TOTAL	6,381	573.8	3,719	100.0	2,662	100.0
1. Diseases of the Heart	1,977	177.8	1,165	31.3	812	30.5
2. Malignant Neoplasms	1,571	141.3	875	23.5	696	26.1
3. Cerebrovascular Diseases	474	42.6	242	6.5	232	8.7
4. All Accidents	284	25.5	213	5.7	71	2.7
5. Influenza/Pneumonia	272	24.5	146	3.9	126	4.7
6. Chronic Obstructive Pulmonary Diseases	197	17.7	126	3.4	71	2.7
7. Diabetes Mellitus	149	13.4	72	1.9	77	2.9
8. Other Respiratory Diseases	145	13.0	91	2.4	54	2.0
9. Suicide	119	10.7	88	2.4	31	1.2
10. Chronic Liver Disease & Cirrhosis	76	6.8	52	1.4	24	0.9
11. Other Circulatory Diseases	74	6.7	52	1.4	22	0.8
12. HIV Infection	66	5.9	64	1.7	2	0.1
13. Perinatal Conditions	63	5.7	34	0.9	29	1.1
14. Septicemia	60	5.4	31	0.8	29	1.1
15. Symptoms, Signs, and Ill-Defined Conditions	59	5.3	36	1.0	23	0.9
16. Nephritis, Nephrotic Syndrome, Nephrosis	57	5.1	34	0.9	23	0.9
17. Homicide & Legal Intervention	52	4.7	38	1.0	14	0.5
ALL OTHER CAUSES	686	61.7	360	9.7	326	12.2

TABLE 48 (Continued)
RESIDENT DEATHS IN HAWAII
LEADING CAUSES OF DEATH FOR AGE GROUPS
1989

UNDER 1 YEAR OLD	TOTAL	MALE	FEMALE
TOTAL	156	97	59
1. Perinatal Conditions	62	33	29
2. Congenital Anomalies	30	21	9
3. Symptoms, Signs & Ill-defined Conditions	29	22	7
ALL OTHER CAUSES	35	21	14

1 TO 4 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	32	18	14
1. Motor Vehicle Accidents	6	1	5
1. Accidents (exc. MV Accidents)	6	6	0
3. Congenital Anomalies	4	3	1
4. Homicide & Legal Intervention	3	2	1
ALL OTHER CAUSES	13	6	7

5 TO 14 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	31	14	17
1. Malignant Neoplasms	9	5	4
2. Motor Vehicle Accidents	7	4	3
3. Accidents (exc. MV Accidents)	4	3	1
ALL OTHER CAUSES	11	2	9

15 TO 24 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	115	79	36
1. Motor Vehicle Accidents	34	24	10
2. Suicide	18	12	6
3. Accidents (exc. MV Accidents)	16	10	6
4. Homicide & Legal Intervention	14	13	1
5. Diseases of the Heart	8	3	5
ALL OTHER CAUSES	25	17	8

25 TO 34 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	210	166	44
1. Suicide	29	24	5
2. Motor Vehicle Accidents	28	24	4
3. Accidents (exc. MV Accidents)	27	25	2
4. HIV Infection	26	25	1
5. Malignant Neoplasms	18	12	6
6. Homicide & Legal Intervention	17	13	4
7. Diseases of the Heart	16	10	6
ALL OTHER CAUSES	49	33	16

35 TO 44 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	275	192	83
1. Malignant Neoplasms	69	32	37
2. Diseases of the Heart	33	28	5
3. Suicide	32	25	7
4. All Other Accidents (exc. MV Accidents)	21	18	3
5. HIV Infection	18	18	0
5. MV Accidents	18	15	3
7. Cerebrovascular Diseases	14	8	6
ALL OTHER CAUSES	70	48	22

TABLE 48 (Continued)
RESIDENT DEATHS IN HAWAII
LEADING CAUSES OF DEATH FOR AGE GROUPS
1989

45 TO 54 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	392	228	164
1. Malignant Neoplasms	108	40	68
2. Diseases of the Heart	106	73	33
3. Cerebrovascular Diseases	31	17	14
4. HIV Infection	16	15	1
5. All Other Accidents (exc. MV Accidents)	14	13	1
5. Suicide	14	7	7
7. Diabetes Mellitus	13	8	5
8. Motor Vehicle Accidents	11	8	3
ALL OTHER CAUSES	79	47	32

55 TO 64 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	835	523	312
1. Malignant Neoplasms	313	186	127
2. Diseases of the Heart	255	174	81
3. Cerebrovascular Diseases	47	21	26
4. Chronic Obstructive Pulmonary Diseases	27	18	9
4. Diabetes Mellitus	27	15	12
6. Chronic Liver Disease & Cirrhosis	26	20	6
7. Influenza/Pneumonia	13	6	7
7. All Other Accidents (exc. MV Accidents)	13	11	2
9. Other Respiratory Diseases	10	8	2
ALL OTHER CAUSES	104	64	40

65 TO 74 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	1,401	889	512
1. Malignant Neoplasms	500	297	203
2. Diseases of the Heart	449	301	148
3. Cerebrovascular Diseases	90	55	35
4. Chronic Obstructive Pulmonary Diseases	52	33	19
5. Diabetes Mellitus	39	23	16
6. Influenza/Pneumonia	33	21	12
7. Other Respiratory Diseases	30	23	7
8. Chronic Liver Disease & Cirrhosis	20	15	5
8. Other Circulatory Diseases	20	15	5
10. All Other Accidents (exc. MV Accidents)	14	11	3
11. Nephritis, Nephrotic Syndrome, & Nephrosis	13	7	6
12. Septicemia	11	7	4
13. Ulcer of Stomach and Duodenum	10	6	4
13. Suicide	10	10	0
ALL OTHER CAUSES	110	65	45

TABLE 48 (Continued)
RESIDENT DEATHS IN HAWAII
LEADING CAUSES OF DEATH FOR AGE GROUPS
1989

75 TO 84 YEARS OLD	TOTAL	MALE	FEMALE
TOTAL	1,640	957	683
1. Diseases of the Heart	580	351	229
2. Malignant Neoplasms	393	232	161
3. Cerebrovascular Diseases	143	83	60
4. Influenza/Pneumonia	84	52	32
5. Chronic Obstructive Pulmonary Diseases	66	42	24
6. Other Respiratory Diseases	54	31	23
7. Diabetes Mellitus	47	16	31
8. Other Circulatory Diseases	27	19	8
9. Septicemia	21	11	10
10. Nephritis, Nephrotic Syndrome, & Nephrosis	17	11	6
11. All Other Accidents (exc. MV Accidents)	14	7	7
12. Chronic Liver Disease & Cirrhosis	13	6	7
ALL OTHER CAUSES	185	96	85

85 YEARS AND OLDER	TOTAL	MALE	FEMALE
TOTAL	1,293	555	738
1. Diseases of the Heart	524	224	300
2. Malignant Neoplasms	153	66	87
3. Cerebrovascular Diseases	141	52	89
4. Influenza/Pneumonia	124	55	69
5. Other Respiratory Diseases	44	24	20
6. Chronic Obstructive Pulmonary Diseases	35	23	12
7. Septicemia	17	6	11
7. Diabetes Mellitus	17	6	11
9. Nephritis, Nephrotic Syndrome, & Nephrosis	15	10	5
9. All Other Accidents (exc. MV Accidents)	15	8	7
ALL OTHER CAUSES	208	81	127

TABLE 49
RESIDENT DEATHS IN HAWAII
LEADING CAUSES OF DEATH BY YEARS OF POTENTIAL LIFE LOST BEFORE AGE 65 (YPLL)
1989

All Age Groups	Total	Male	Female
TOTAL (All causes)	43,334	28,454	14,880
1. All Accidents	7,523	5,744	1,779
2. Malignant Neoplasm	6,438	3,228	3,210
3. Diseases of the Heart	4,844	3,132	1,712
4. Certain Conditions Originating in the Perinatal Period	4,094	2,209	1,885
5. Suicide	3,001	2,217	784
6. Homicide & Legal Intervention	1,880	1,405	475
7. HIV Infection	1,755	1,706	49
8. Cerebrovascular Diseases	1,327	772	555
9. Influenza/Pneumonia	689	441	248
10. Chronic Obstructive Pulmonary Diseases	575	296	275
11. Diabetes Mellitus	473	302	171
12. Chronic Liver Disease & Cirrhosis	462	336	126
13. Other Respiratory Diseases	314	223	91
14. Septicemia	286	243	23
15. Nephritis, Nephrotic Syndrome, and Nephrosis	237	102	135
16. Other Circulatory Diseases	210	182	28
All Other Causes	9,226	5,916	3,334

Note: a/ Years of potential life lost before age 65 is computed as the difference between age 65 and the age at which the decedent died.

TABLE 50
RESIDENT DEATHS BY COUNTY AND BY SELECTED CAUSES OF DEATH STATE OF HAWAII 1989

CAUSES OF DEATH	STATE		HAWAII		HONOLULU		KAUAI		MAUI[a]	
	No.	Rate[b]	No.	Rate[b]	No.	Rate[b]	No.	Rate[b]	No.	Rate[b]
TOTAL DEATHS	6381	573.8	845	690.9	4634	550.6	323	633.3	579	596.3
DISEASES:										
Infective and Parasitic Diseases	148	13.3	15	12.3	104	12.4	17	33.3	12	12.3
Tuberculosis	4	0.4	0	0.0	4	0.5	0	0.0	0	0.0
HIV Infection	66	5.9	10	8.2	46	5.5	6	11.8	4	4.1
Other Infective and Parasitic Diseases	78	7.0	5	4.1	54	6.4	11	21.6	8	8.2
Malignant Neoplasms	1571	141.3	207	169.3	1149	136.5	73	143.1	142	146.1
Of the Digestive Organs	509	45.8	69	56.4	385	45.7	19	37.3	36	37.0
Of the Respiratory System	394	35.4	55	45.0	285	33.9	18	35.3	36	37.0
Of the Breast	95	8.5	7	5.7	70	8.3	7	13.7	11	11.3
Of the Genital Organs	158	14.2	21	17.2	113	13.4	10	19.6	14	14.4
Of the Urinary Organs	52	4.7	6	4.9	38	4.5	1	2.0	7	7.2
Leukemia	66	5.9	4	3.3	53	6.3	2	3.9	7	7.2
Other Malignant Neoplasms	297	26.7	45	36.8	205	24.4	16	31.4	31	31.9
Diabetes Mellitus	149	13.4	27	22.1	105	12.5	4	7.8	13	13.4
Diseases of the Circulatory System	2570	231.1	338	276.4	1881	223.5	133	260.8	218	224.3
Diseases of the Heart	1977	177.8	251	205.2	1464	174.0	99	194.1	163	167.7
Rheumatic Fever and Chronic Rheumatic Heart Disease	24	2.2	2	1.6	18	2.1	2	3.9	2	2.1
Hypertensive Heart Disease	63	5.7	4	3.3	51	6.1	3	5.9	5	5.1
Ischemic Heart Disease	1083	97.4	161	131.6	793	94.2	57	111.8	72	74.1
Other Forms of Heart Disease	807	72.6	84	68.7	602	71.5	37	72.5	84	86.4
Hypertension	27	2.4	4	3.3	19	2.3	2	3.9	2	2.1
Cerebrovascular Diseases	474	42.6	68	55.6	330	39.2	29	56.9	47	48.4
Arteriosclerosis	18	1.6	6	4.9	11	1.3	0	0.0	1	1.0
Other Circulatory Diseases	74	6.7	9	7.4	57	6.8	3	5.9	5	5.1
Respiratory Diseases	614	55.2	72	58.9	468	55.6	36	70.6	38	39.1
Influenza/Pneumonia	272	24.5	39	31.9	199	23.6	13	25.5	21	21.6
Chronic Obstructive Pulmonary Diseases	197	17.7	15	12.3	160	19.0	11	21.6	11	11.3
Other Respiratory Diseases	145	13.0	18	14.7	109	13.0	12	23.5	6	6.2
Peptic Ulcer	27	2.4	1	0.8	20	2.4	2	3.9	4	4.1
Cirrhosis of the Liver	76	6.8	7	5.7	56	6.7	4	7.8	9	9.3
Nephritis and Nephrosis	57	5.1	10	8.2	40	4.8	0	0.0	7	7.2
Complications of Pregnancy, Childbirth, and the Puerperium	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Congenital Anomalies	40	3.6	4	3.3	33	3.9	2	3.9	1	1.0
Perinatal Conditions	63	5.7	4	3.3	51	6.1	4	7.8	4	4.1
Symptoms and Ill-Defined Conditions	59	5.3	8	6.5	35	4.2	5	9.8	11	11.3
All Other Diseases	499	44.9	60	49.1	357	42.4	28	54.9	54	55.6
EXTERNAL CAUSES:										
Accidents	281	25.3	62	50.7	162	19.2	10	19.6	47	48.4
Motor Vehicle	137	12.3	34	27.8	79	9.4	7	13.7	17	17.5
Other Means of Transport	26	2.3	2	1.6	9	1.1	0	0.0	15	15.4
Poisoning	13	1.2	7	5.7	5	0.6	0	0.0	1	1.0
Falls	43	3.9	6	4.9	32	3.8	1	2.0	4	4.1
Fires	2	0.2	0	0.0	2	0.2	0	0.0	0	0.0
Drowning and Submersion	21	1.9	8	6.5	9	1.1	1	2.0	3	3.1
Firearm Missile	3	0.3	1	0.8	0	0.0	0	0.0	2	2.1
Adverse Effects	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0
Other Types of Accidents	35	3.1	4	3.3	25	3.0	1	2.0	5	5.1
Suicide	119	10.7	19	15.5	90	10.7	1	2.0	9	9.3
Homicide and Legal Intervention	52	4.7	7	5.7	41	4.9	2	3.9	2	2.1
All Other External Causes	56	5.0	4	3.3	42	5.0	2	3.9	8	8.2

NOTES: [a] Kalawao is included in Maui County.
[b] Per 100,000 residents.

TABLE 51
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
STATE OF HAWAII 1989

CAUSES OF DEATH	AGE (IN YEARS)													
	Less Than 1		1 to 4		5 to 14		15 to 19		20 to 29		30 to 39		40 to 49	
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	97	59	18	14	14	17	34	13	113	38	196	61	202	134
DISEASES:														
Infective and Parasitic Diseases	2	0	0	0	0	0	0	0	12	1	30	2	18	2
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	0	0	0	0	0	0	0	0	11	0	27	1	16	1
Other Infective and Parasitic Diseases	2	0	0	0	0	0	0	0	1	1	3	1	2	1
Malignant Neoplasms	0	0	1	1	5	4	3	0	3	3	29	22	30	56
Of the Digestive Organs	0	0	0	0	0	0	0	0	0	0	12	3	5	14
Of the Respiratory System	0	0	0	0	0	0	0	0	0	0	3	1	13	11
Of the Breast	0	0	0	0	0	0	0	0	0	0	0	7	0	12
Of the Genital Organs	0	0	0	0	0	0	0	0	0	1	1	7	0	11
Of the Urinary Organs	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Leukemia	0	0	1	0	3	2	2	0	2	0	5	1	2	2
Other Malignant Neoplasms	0	0	0	1	2	2	1	0	1	2	7	2	9	5
Diabetes Mellitus	0	0	0	0	0	0	0	0	0	0	2	1	4	1
Diseases of the Circulatory System	1	0	0	2	0	3	1	3	7	6	23	8	72	28
Diseases of the Heart	1	0	0	2	0	3	0	3	6	5	18	4	47	18
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	0	0	0	0	0	0	0	1	0	0	1	0	2
Hypertensive Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Ischemic Heart Disease	0	0	0	0	0	0	0	0	0	0	9	0	16	8
Other Forms of Heart Disease	1	0	0	2	0	3	0	3	5	5	9	3	28	8
Hypertension	0	0	0	0	0	0	0	0	0	1	0	0	2	0
Cerebrovascular Diseases	0	0	0	0	0	0	1	0	1	0	4	4	17	10
Arteriosclerosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Circulatory Diseases	0	0	0	0	0	0	0	0	0	0	1	0	6	0
Respiratory Diseases	4	3	0	0	1	1	0	1	4	1	4	3	8	4
Influenza / Pneumonia	3	2	0	0	0	0	0	0	2	0	1	1	4	2
Chronic Obstructive Pulmonary Diseases	0	0	0	0	0	1	0	1	1	1	3	2	3	1
Other Respiratory Diseases	1	1	0	0	1	0	0	0	1	0	0	0	1	1
Peptic Ulcer	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Cirrhosis of the Liver	0	0	0	0	0	0	0	0	1	0	2	0	4	4
Nephritis and Nephrosis	0	0	0	0	0	1	0	0	0	1	1	0	2	1
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	21	9	3	1	0	0	0	0	0	0	0	1	0	2
Perinatal Conditions	33	29	1	0	0	0	0	0	0	0	0	0	0	0
Symptoms and Ill-Defined Conditions	22	7	0	1	0	0	2	0	1	0	2	0	1	1
All Other Diseases	5	5	4	3	1	2	0	1	5	3	11	6	15	13
EXTERNAL CAUSES:														
Accidents	5	1	7	5	7	4	16	7	46	12	40	6	29	7
Motor Vehicle	3	0	1	5	4	3	10	2	31	10	15	4	14	4
Other Means of Transport	0	0	0	0	2	0	1	5	3	1	7	2	3	0
Poisoning	0	0	0	0	0	0	0	0	2	0	7	0	3	1
Falls	0	0	1	0	0	0	0	0	5	0	3	0	2	1
Fires	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Drowning and Submersion	1	0	3	0	0	0	3	0	4	1	3	0	2	0
Firearm Missile	0	0	1	0	0	1	1	0	0	0	0	0	0	0
Adverse Effects	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	1	1	0	0	1	0	1	0	1	0	5	0	4	1
Suicide	0	0	0	0	0	1	8	0	19	8	25	7	12	7
Homicide and Legal Intervention	2	1	2	1	0	1	4	1	13	2	11	2	2	4
All Other External Causes	2	4	0	0	0	0	0	0	2	1	15	3	5	4

TABLE 51 (Continued)
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
STATE OF HAWAII 1989

CAUSES OF DEATH (Unknown Sex Classified as Male)	AGE (IN YEARS)												
	50 to 59		60 to 69		70 to 79		80 or older		Unknown		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	Total
TOTAL DEATHS	317	211	756	436	976	595	995	1084	1	0	3719	2662	6381
DISEASES:													
Infective and Parasitic Diseases	8	2	13	4	10	8	13	23	0	0	106	42	148
Tuberculosis	0	0	2	0	1	0	0	1	0	0	3	1	4
HIV Infection	8	0	2	0	0	0	0	0	0	0	64	2	66
Other Infective and Parasitic Diseases	0	2	9	4	9	8	13	22	0	0	39	39	78
Malignant Neoplasms	89	88	269	185	282	185	164	152	0	0	875	696	1571
Of the Digestive Organs	25	19	94	52	96	67	53	69	0	0	285	224	509
Of the Respiratory System	39	21	93	45	82	43	30	13	0	0	260	134	394
Of the Breast	0	24	0	22	0	20	0	10	0	0	0	95	95
Of the Genital Organs	1	10	8	23	39	14	34	9	0	0	83	75	158
Of the Urinary Organs	3	1	10	3	8	7	8	8	0	0	31	21	52
Leukemia	3	2	10	1	12	4	7	7	0	0	47	19	66
Other Malignant Neoplasms	18	11	54	39	45	30	32	36	0	0	169	128	297
Diabetes Mellitus	16	9	12	16	25	23	13	27	0	0	72	77	149
Diseases of the Circulatory System	125	76	310	148	441	251	503	562	0	0	1483	1087	2570
Diseases of the Heart	103	51	257	117	346	196	387	413	0	0	1165	812	1977
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	4	4	4	0	2	1	5	0	0	6	18	24
Hypertensive Heart Disease	1	0	4	0	15	5	17	18	0	0	40	23	63
Ischemic Heart Disease	59	24	138	58	208	117	222	224	0	0	652	431	1083
Other Forms of Heart Disease	43	23	111	55	123	72	147	166	0	0	467	340	807
Hypertension	2	1	2	0	5	3	4	7	0	0	15	12	27
Cerebrovascular Diseases	17	22	39	25	68	44	95	127	0	0	242	232	474
Arteriosclerosis	1	0	1	2	2	0	5	7	0	0	9	9	18
Other Circulatory Diseases	2	2	11	4	20	8	12	8	0	0	52	22	74
Respiratory Diseases	15	8	54	26	112	55	160	149	1	0	363	251	614
Influenza / Pneumonia	5	3	12	11	41	15	78	92	0	0	146	126	272
Chronic Obstructive Pulmonary Diseases	8	4	27	12	45	25	38	24	1	0	126	71	197
Other Respiratory Diseases	2	1	15	3	26	15	44	33	0	0	91	54	145
Peptic Ulcer	2	0	4	2	6	2	5	5	0	0	18	9	27
Cirrhosis of the Liver	17	3	17	7	7	7	4	3	0	0	52	24	76
Nephritis and Nephrosis	2	1	4	5	9	6	16	8	0	0	34	23	57
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	0	2	0	0	0	1	0	0	0	0	24	16	40
Perinatal Conditions	0	0	0	0	0	0	0	0	0	0	34	29	63
Symptoms and Ill-Defined Conditions	1	1	3	0	2	2	2	11	0	0	36	23	59
All Other Diseases	19	16	39	30	56	49	92	124	0	0	247	252	499
EXTERNAL CAUSES:													
Accidents	13	1	15	8	13	4	20	15	0	0	211	70	281
Motor Vehicle	5	1	2	5	5	2	9	2	0	0	99	38	137
Other Means of Transport	1	0	1	0	0	0	0	0	0	0	18	8	26
Poisoning	0	0	0	0	0	0	0	0	0	0	12	1	13
Falls	1	0	6	2	4	2	6	10	0	0	28	15	43
Fires	0	0	0	0	0	0	0	1	0	0	1	1	2
Drowning and Submersion	1	0	3	0	0	0	0	0	0	0	20	1	21
Firearm Missile	0	0	0	0	0	0	0	0	0	0	2	1	3
Adverse Effects	0	0	0	0	0	0	0	0	0	0	1	0	1
Other Types of Accidents	5	0	3	1	4	0	5	2	0	0	30	5	35
Suicide	6	4	11	1	6	0	1	3	0	0	88	31	119
Homicide and Legal Intervention	0	0	2	1	2	0	0	1	0	0	38	14	52
All Other External Causes	4	0	3	3	5	2	2	1	0	0	38	18	56

TABLE 52
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
HAWAII COUNTY 1989

CAUSES OF DEATH	AGE (IN YEARS)													
	Less Than 1		1 to 4		5 to 14		15 to 19		20 to 29		30 to 39		40 to 49	
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	13	6	3	1	1	2	6	2	21	4	35	6	30	17
DISEASES:														
Infective and Parasitic Diseases	0	0	0	0	0	0	0	0	2	0	2	2	4	0
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	0	0	0	0	0	0	0	0	2	0	2	1	4	0
Other Infective and Parasitic Diseases	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Malignant Neoplasms	0	0	0	0	0	0	1	0	0	1	5	2	3	4
Of the Digestive Organs	0	0	0	0	0	0	0	0	0	0	3	0	0	1
Of the Respiratory System	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Of the Breast	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Of the Genital Organs	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Of the Urinary Organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leukemia	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Other Malignant Neoplasms	0	0	0	0	0	0	0	0	0	1	2	0	1	0
Diabetes Mellitus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diseases of the Circulatory System	1	0	0	0	0	0	0	0	0	0	3	0	9	2
Diseases of the Heart	1	0	0	0	0	0	0	0	0	0	3	0	6	1
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypertensive Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischemic Heart Disease	0	0	0	0	0	0	0	0	0	0	3	0	2	1
Other Forms of Heart Disease	1	0	0	0	0	0	0	0	0	0	0	0	4	0
Hypertension	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cerebrovascular Diseases	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Arteriosclerosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Circulatory Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Respiratory Diseases	2	0	0	0	0	0	0	0	2	0	0	0	0	2
Influenza / Pneumonia	1	0	0	0	0	0	0	0	1	0	0	0	0	1
Chronic Obstructive Pulmonary Diseases	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Other Respiratory Diseases	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Peptic Ulcer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirrhosis of the Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Nephritis and Nephrosis	0	0	0	0	0	1	0	0	0	0	0	0	1	0
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Perinatal Conditions	1	3	0	0	0	0	0	0	0	0	0	0	0	0
Symptoms and Ill-Defined Conditions	5	2	0	0	0	0	0	0	0	0	0	0	0	0
All Other Diseases	0	0	0	0	0	1	0	1	1	0	1	0	2	3
EXTERNAL CAUSES:														
Accidents	2	0	2	1	1	0	5	1	9	2	14	1	8	1
Motor Vehicle	1	0	0	1	0	0	3	1	6	2	6	1	4	1
Other Means of Transport	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Poisoning	0	0	0	0	0	0	0	0	1	0	5	0	1	0
Falls	0	0	1	0	0	0	0	0	0	0	1	0	0	0
Fires	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning and Submersion	0	0	0	0	0	0	2	0	1	0	1	0	2	0
Firearm Missile	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Adverse Effects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	1	0	0	0	1	0	0	0	0	0	1	0	0	0
Suicide	0	0	0	0	0	0	0	0	5	1	6	1	2	0
Homicide and Legal Intervention	1	0	1	0	0	0	0	0	2	0	2	0	0	1
All Other External Causes	0	0	0	0	0	0	0	0	0	0	2	0	1	1

TABLE 52 (Continued)
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
HAWAII COUNTY 1989

CAUSES OF DEATH (Unknown Sex Classified as Male)	AGE (IN YEARS)												
	50 to 59		60 to 69		70 to 79		80 or older		Unknown		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	Total
TOTAL DEATHS	39	19	82	68	149	72	145	124	0	0	524	321	845
DISEASES:													
Infective and Parasitic Diseases	0	0	2	0	0	0	2	1	0	0	12	3	15
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	0	0	1	0	0	0	0	0	0	0	9	1	10
Other Infective and Parasitic Diseases	0	0	1	0	0	0	2	1	0	0	3	2	5
Malignant Neoplasms	11	6	30	29	45	18	26	26	0	0	121	86	207
Of the Digestive Organs	4	1	6	7	13	10	9	15	0	0	35	34	69
Of the Respiratory System	4	2	12	7	13	4	8	2	0	0	39	16	55
Of the Breast	0	1	0	2	0	0	0	1	0	0	0	7	7
Of the Genital Organs	1	1	1	4	7	0	4	2	0	0	13	8	21
Of the Urinary Organs	0	0	1	0	1	1	2	1	0	0	4	2	6
Leukemia	1	0	1	0	0	0	0	1	0	0	3	1	4
Other Malignant Neoplasms	1	1	9	9	11	3	3	4	0	0	27	18	45
Diabetes Mellitus	4	1	1	3	7	3	2	6	0	0	14	13	27
Diseases of the Circulatory System	21	6	37	27	69	31	73	59	0	0	213	125	338
Diseases of the Heart	17	2	33	23	53	23	53	36	0	0	166	85	251
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	0	1	0	0	0	0	1	0	0	1	1	2
Hypertensive Heart Disease	0	0	1	0	2	0	1	0	0	0	4	0	4
Ischemic Heart Disease	15	2	23	17	32	17	26	23	0	0	101	60	161
Other Forms of Heart Disease	2	0	8	6	19	6	26	12	0	0	60	24	84
Hypertension	0	0	0	0	2	1	0	1	0	0	2	2	4
Cerebrovascular Diseases	2	4	2	4	10	6	17	19	0	0	34	34	68
Arteriosclerosis	1	0	0	0	1	0	1	3	0	0	3	3	6
Other Circulatory Diseases	1	0	2	0	3	1	2	0	0	0	8	1	9
Respiratory Diseases	0	1	3	3	12	7	25	15	0	0	44	28	72
Influenza / Pneumonia	0	1	1	0	4	5	15	10	0	0	22	17	39
Chronic Obstructive Pulmonary Diseases	0	0	0	2	2	1	6	3	0	0	9	6	15
Other Respiratory Diseases	0	0	2	1	6	1	4	2	0	0	13	5	18
Peptic Ulcer	0	0	0	1	0	0	0	0	0	0	0	1	1
Cirrhosis of the Liver	2	0	1	1	1	1	0	0	0	0	4	3	7
Nephritis and Nephrosis	0	1	0	0	2	1	3	1	0	0	6	4	10
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	0	0	0	0	0	0	0	0	0	0	1	3	4
Perinatal Conditions	0	0	0	0	0	0	0	0	0	0	1	3	4
Symptoms and Ill-Defined Conditions	0	0	0	0	1	0	0	0	0	0	6	2	8
All Other Diseases	0	2	4	1	10	9	11	14	0	0	29	31	60
EXTERNAL CAUSES:													
Accidents	1	0	2	3	2	2	3	2	0	0	49	13	62
Motor Vehicle	1	0	0	1	1	2	3	0	0	0	25	9	34
Other Means of Transport	0	0	0	0	0	0	0	0	0	0	2	0	2
Poisoning	0	0	0	0	0	0	0	0	0	0	7	0	7
Falls	0	0	0	1	1	0	0	2	0	0	3	3	6
Fires	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning and Submersion	0	0	2	0	0	0	0	0	0	0	8	0	8
Firearm Missile	0	0	0	0	0	0	0	0	0	0	1	0	1
Adverse Effects	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	0	0	0	1	0	0	0	0	0	0	3	1	4
Suicide	0	2	2	0	0	0	0	0	0	0	15	4	19
Homicide and Legal Intervention	0	0	0	0	0	0	0	0	0	0	6	1	7
All Other External Causes	0	0	0	0	0	0	0	0	0	0	3	1	4

TABLE 53
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
CITY AND COUNTY OF HONOLULU 1989

CAUSES OF DEATH	AGE (IN YEARS)													
	Less Than 1		1 to 4		5 to 14		15 to 19		20 to 29		30 to 39		40 to 49	
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	68	43	13	10	11	7	22	5	82	30	125	42	129	95
DISEASES:														
Infective and Parasitic Diseases	1	0	0	0	0	0	0	0	10	1	24	0	11	1
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	0	0	0	0	0	0	0	0	9	0	21	0	9	1
Other Infective and Parasitic Diseases	1	0	0	0	0	0	0	0	1	1	3	0	2	0
Malignant Neoplasms	0	0	1	1	5	2	2	0	2	2	18	16	18	43
Of the Digestive Organs	0	0	0	0	0	0	0	0	0	0	7	2	3	12
Of the Respiratory System	0	0	0	0	0	0	0	0	0	0	3	1	7	9
Of the Breast	0	0	0	0	0	0	0	0	0	0	0	4	0	6
Of the Genital Organs	0	0	0	0	0	0	0	0	0	1	0	6	0	10
Of the Urinary Organs	0	0	0	0	0	0	0	0	0	0	1	1	1	0
Leukemia	0	0	1	0	3	1	1	0	2	0	5	1	2	1
Other Malignant Neoplasms	0	0	0	1	2	1	1	0	0	1	2	1	5	5
Diabetes Mellitus	0	0	0	0	0	0	0	0	0	0	2	0	4	0
Diseases of the Circulatory System	0	0	0	2	0	2	0	2	6	4	15	6	48	23
Diseases of the Heart	0	0	0	2	0	2	0	2	5	3	12	3	29	14
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	0	0	0	0	0	0	0	1	0	0	1	0	1
Hypertensive Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Ischemic Heart Disease	0	0	0	0	0	0	0	0	0	0	5	0	9	7
Other Forms of Heart Disease	0	0	0	2	0	2	0	2	4	3	7	2	19	6
Hypertension	0	0	0	0	0	0	0	0	0	1	0	0	1	0
Cerebrovascular Diseases	0	0	0	0	0	0	0	0	1	0	2	3	13	9
Arteriosclerosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Circulatory Diseases	0	0	0	0	0	0	0	0	0	0	1	0	5	0
Respiratory Diseases	2	2	0	0	1	1	0	1	2	1	3	2	6	1
Influenza / Pneumonia	2	1	0	0	0	0	0	0	1	0	1	0	4	0
Chronic Obstructive Pulmonary Diseases	0	0	0	0	0	1	0	1	0	1	2	2	1	1
Other Respiratory Diseases	0	1	0	0	1	0	0	0	1	0	0	0	1	0
Peptic Ulcer	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Cirrhosis of the Liver	0	0	0	0	0	0	0	0	1	0	2	0	4	2
Nephritis and Nephrosis	0	0	0	0	0	0	0	0	0	1	1	0	0	1
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	18	7	3	1	0	0	0	0	0	0	0	1	0	0
Perinatal Conditions	29	21	1	0	0	0	0	0	0	0	0	0	0	0
Symptoms and Ill-Defined Conditions	11	3	0	1	0	0	2	0	1	0	1	0	0	0
All Other Diseases	3	4	3	1	1	1	0	0	4	3	9	5	10	7
EXTERNAL CAUSES:														
Accidents	2	1	4	3	4	0	7	1	30	8	14	3	15	6
Motor Vehicle	1	0	1	3	4	0	5	1	18	7	5	3	7	3
Other Means of Transport	0	0	0	0	0	0	0	0	2	0	5	0	1	0
Poisoning	0	0	0	0	0	0	0	0	1	0	1	0	2	1
Falls	0	0	0	0	0	0	0	0	5	0	1	0	2	1
Fires	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Drowning and Submersion	1	0	2	0	0	0	1	0	3	1	0	0	0	0
Firearm Missile	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adverse Effects	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	0	1	0	0	0	0	1	0	1	0	2	0	2	1
Suicide	0	0	0	0	0	1	7	0	13	7	17	5	9	6
Homicide and Legal Intervention	0	1	1	1	0	0	4	1	11	2	8	2	2	3
All Other External Causes	2	4	0	0	0	0	0	0	2	1	10	2	2	2

TABLE 53 (Continued)
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH CITY AND COUNTY OF HONOLULU 1989

CAUSES OF DEATH (Unknown Sex Classified as Male)	AGE (IN YEARS)												
	50 to 59		60 to 69		70 to 79		80 or older		Unknown		Total		
	M	F	M	F	M	F	M	F	M	F	M	F	Total
TOTAL DEATHS	238	164	570	311	694	448	713	813	1	0	2666	1968	4634
DISEASES:													
Infective and Parasitic Diseases	5	2	8	3	8	4	9	17	0	0	76	28	104
Tuberculosis	0	0	2	0	1	0	0	1	0	0	3	1	4
HIV Infection	5	0	1	0	0	0	0	0	0	0	45	1	46
Other Infective and Parasitic Diseases	0	2	5	3	7	4	9	16	0	0	28	26	54
Malignant Neoplasms	66	70	201	134	203	151	114	100	0	0	630	519	1149
Of the Digestive Organs	19	18	75	40	72	52	39	46	0	0	215	170	385
Of the Respiratory System	29	18	67	33	60	33	18	7	0	0	184	101	285
Of the Breast	0	18	0	17	0	19	0	6	0	0	0	70	70
Of the Genital Organs	0	6	6	15	27	12	23	7	0	0	56	57	113
Of the Urinary Organs	2	0	8	3	6	5	5	6	0	0	23	15	38
Leukemia	2	2	9	1	9	4	4	5	0	0	38	15	53
Other Malignant Neoplasms	14	8	36	25	29	26	25	23	0	0	114	91	205
Diabetes Mellitus	11	8	11	11	14	16	11	17	0	0	53	52	105
Diseases of the Circulatory System	88	59	235	105	308	186	356	436	0	0	1056	825	1881
Diseases of the Heart	71	41	196	85	246	147	280	326	0	0	839	625	1464
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	3	2	4	0	2	1	3	0	0	4	14	18
Hypertensive Heart Disease	1	0	3	0	10	4	15	17	0	0	30	21	51
Ischemic Heart Disease	35	17	101	37	148	86	165	183	0	0	463	330	793
Other Forms of Heart Disease	35	21	90	44	88	55	99	123	0	0	342	260	602
Hypertension	2	1	2	0	3	2	2	5	0	0	10	9	19
Cerebrovascular Diseases	14	15	28	14	44	31	63	93	0	0	165	165	330
Arteriosclerosis	0	0	1	2	1	0	3	4	0	0	5	6	11
Other Circulatory Diseases	1	2	8	4	14	6	8	8	0	0	37	20	57
Respiratory Diseases	12	7	45	19	89	40	117	116	1	0	278	190	46[illegible]
Influenza / Pneumonia	4	2	11	10	31	7	55	70	0	0	109	90	199
Chronic Obstructive Pulmonary Diseases	6	4	24	8	41	21	26	20	1	0	101	59	160
Other Respiratory Diseases	2	1	10	1	17	12	36	26	0	0	68	41	109
Peptic Ulcer	1	0	2	1	5	2	4	4	0	0	13	7	20
Cirrhosis of the Liver	14	3	12	3	4	6	2	3	0	0	39	17	56
Nephritis and Nephrosis	2	0	4	4	6	4	11	[illegible]	0	0	24	16	40
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	0	2	0	0	0	1	0	0	0	0	21	12	33
Perinatal Conditions	0	0	0	0	0	0	0	0	0	0	30	21	51
Symptoms and Ill-Defined Conditions	1	0	3	0	0	1	2	9	0	0	21	14	35
All Other Diseases	18	11	27	23	38	33	68	88	0	0	181	176	357
EXTERNAL CAUSES:													
Accidents	10	0	9	5	10	2	16	12	0	0	121	41	162
Motor Vehicle	4	0	2	4	4	0	5	2	0	0	56	23	79
Other Means of Transport	0	0	1	0	0	0	0	0	0	0	9	0	9
Poisoning	0	0	0	0	0	0	0	0	0	0	4	1	5
Falls	1	0	3	1	3	2	6	7	0	0	21	11	32
Fires	0	0	0	0	0	0	0	1	0	0	1	1	2
Drowning and Submersion	0	0	1	0	0	0	0	0	0	0	8	1	9
Firearm Missile	0	0	0	0	0	0	0	0	0	0	0	0	0
Adverse Effects	0	0	0	0	0	0	0	0	0	0	1	0	1
Other Types of Accidents	5	0	2	0	3	0	5	2	0	0	21	4	25
Suicide	6	2	8	0	5	0	1	3	0	0	66	24	90
Homicide and Legal Intervention	0	0	2	0	2	0	0	1	0	0	30	11	41
All Other External Causes	4	0	3	3	2	2	2	1	0	0	27	15	42

TABLE 54
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
KAUAI COUNTY 1989

CAUSES OF DEATH	AGE (IN YEARS)													
	Less Than 1		1 to 4		5 to 14		15 to 19		20 to 29		30 to 39		40 to 49	
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	8	4	1	1	0	1	1	0	3	1	13	3	15	5
DISEASES:														
Infective and Parasitic Diseases	1	0	0	0	0	0	0	0	0	0	3	0	2	0
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	0	0	0	0	0	0	0	0	0	0	3	0	2	0
Other Infective and Parasitic Diseases	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Malignant Neoplasms	0	0	0	0	0	0	0	0	0	0	0	1	4	4
Of the Digestive Organs	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Of the Respiratory System	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Of the Breast	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Of the Genital Organs	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Of the Urinary Organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leukemia	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Other Malignant Neoplasms	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Diabetes Mellitus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diseases of the Circulatory System	0	0	0	0	0	0	1	0	0	0	5	1	4	0
Diseases of the Heart	0	0	0	0	0	0	0	0	0	0	3	0	4	0
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hypertensive Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ischemic Heart Disease	0	0	0	0	0	0	0	0	0	0	1	0	4	0
Other Forms of Heart Disease	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Hypertension	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cerebrovascular Diseases	0	0	0	0	0	0	1	0	0	0	2	1	0	0
Arteriosclerosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Circulatory Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Respiratory Diseases	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Influenza / Pneumonia	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Chronic Obstructive Pulmonary Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Respiratory Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peptic Ulcer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirrhosis of the Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nephritis and Nephrosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Perinatal Conditions	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Symptoms and Ill-Defined Conditions	3	0	0	0	0	0	0	0	0	0	0	0	1	0
All Other Diseases	0	1	0	1	0	0	0	0	0	0	1	0	3	0
EXTERNAL CAUSES:														
Accidents	0	0	1	0	0	1	0	0	2	1	2	0	1	0
Motor Vehicle	0	0	0	0	0	1	0	0	2	1	2	0	1	0
Other Means of Transport	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poisoning	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fires	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning and Submersion	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Firearm Missile	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adverse Effects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Suicide	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Homicide and Legal Intervention	1	0	0	0	0	0	0	0	0	0	0	0	0	0
All Other External Causes	0	0	0	0	0	0	0	0	0	0	2	0	0	0

TABLE 54 (Continued)
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
KAUAI COUNTY 1989

CAUSES OF DEATH	AGE (IN YEARS)												
	50 to 59		60 to 69		70 to 79		80 or older		Unknown		Total		
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F	Total
TOTAL DEATHS	12	10	42	22	43	26	55	57	0	0	193	130	323
DISEASES:													
Infective and Parasitic Diseases	1	0	2	0	2	2	1	3	0	0	12	5	17
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	1	0	0	0	0	0	0	0	0	0	6	0	6
Other Infective and Parasitic Diseases	0	0	2	0	2	2	1	3	0	0	6	5	11
Malignant Neoplasms	3	5	15	6	9	6	8	12	0	0	39	34	73
Of the Digestive Organs	1	0	5	0	4	2	2	4	0	0	13	6	19
Of the Respiratory System	2	1	7	1	1	1	1	3	0	0	12	6	18
Of the Breast	0	2	0	1	0	1	0	0	0	0	0	7	7
Of the Genital Organs	0	2	0	2	2	1	2	0	0	0	4	6	10
Of the Urinary Organs	0	0	0	0	0	0	1	0	0	0	1	0	1
Leukemia	0	0	0	0	0	0	1	0	0	0	1	1	2
Other Malignant Neoplasms	0	0	3	2	2	1	1	5	0	0	8	8	16
Diabetes Mellitus	1	0	0	0	1	2	0	0	0	0	2	2	4
Diseases of the Circulatory System	6	4	13	8	22	10	32	27	0	0	83	50	133
Diseases of the Heart	6	3	10	4	18	9	22	20	0	0	63	36	99
-Rheumatic Fever and Chronic Rheumatic Heart Disease	0	0	1	0	0	0	0	1	0	0	1	1	2
Hypertensive Heart Disease	0	0	0	0	1	1	0	1	0	0	1	2	3
Ischemic Heart Disease	5	3	8	2	13	2	14	5	0	0	45	12	57
Other Forms of Heart Disease	1	0	1	2	4	6	8	13	0	0	16	21	37
Hypertension	0	0	0	0	0	0	1	1	0	0	1	1	2
Cerebrovascular Diseases	0	1	3	4	2	1	8	6	0	0	16	13	29
Arteriosclerosis	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Circulatory Diseases	0	0	0	0	2	0	1	0	0	0	3	0	3
Respiratory Diseases	0	0	5	3	6	5	8	7	0	0	19	17	36
Influenza / Pneumonia	0	0	0	0	2	1	3	5	0	0	5	8	13
Chronic Obstructive Pulmonary Diseases	0	0	3	2	1	2	3	0	0	0	7	4	11
Other Respiratory Diseases	0	0	2	1	3	2	2	2	0	0	7	5	12
Peptic Ulcer	1	0	1	0	0	0	0	0	0	0	2	0	2
Cirrhosis of the Liver	0	0	3	0	1	0	0	0	0	0	4	0	4
Nephritis and Nephrosis	0	0	0	0	0	0	0	0	0	0	0	0	0
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	0	0	0	0	0	0	0	0	0	0	1	1	2
Perinatal Conditions	0	0	0	0	0	0	0	0	0	0	2	2	4
Symptoms and Ill-Defined Conditions	0	0	0	0	0	0	0	1	0	0	4	1	5
All Other Diseases	0	1	1	4	2	1	6	7	0	0	13	15	28
EXTERNAL CAUSES:													
Accidents	0	0	2	0	0	0	0	0	0	0	8	2	10
Motor Vehicle	0	0	0	0	0	0	0	0	0	0	5	2	7
Other Means of Transport	0	0	0	0	0	0	0	0	0	0	0	0	0
Poisoning	0	0	0	0	0	0	0	0	0	0	0	0	0
Falls	0	0	1	0	0	0	0	0	0	0	1	0	1
Fires	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning and Submersion	0	0	0	0	0	0	0	0	0	0	1	0	1
Firearm Missile	0	0	0	0	0	0	0	0	0	0	0	0	0
Adverse Effects	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	0	0	1	0	0	0	0	0	0	0	1	0	1
Suicide	0	0	0	0	0	0	0	0	0	0	1	0	1
Homicide and Legal Intervention	0	0	0	1	0	0	0	0	0	0	1	1	2
All Other External Causes	0	0	0	0	0	0	0	0	0	0	2	0	2

TABLE 55
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
MAUI COUNTY 1989

CAUSES OF DEATH	AGE (IN YEARS)													
	Less Than 1		1 to 4		5 to 14		15 to 19		20 to 29		30 to 39		40 to 49	
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F	M	F
TOTAL DEATHS	8	6	1	2	2	7	5	6	7	3	23	10	28	17
DISEASES:														
Infective and Parasitic Diseases	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Other Infective and Parasitic Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Malignant Neoplasms	0	0	0	0	0	2	0	0	1	0	6	3	5	5
Of the Digestive Organs	0	0	0	0	0	0	0	0	0	0	2	1	1	1
Of the Respiratory System	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Of the Breast	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Of the Genital Organs	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Of the Urinary Organs	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Leukemia	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Other Malignant Neoplasms	0	0	0	0	0	1	0	0	1	0	3	1	1	0
Diabetes Mellitus	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Diseases of the Circulatory System	0	0	0	0	0	1	0	1	1	2	0	1	11	3
Diseases of the Heart	0	0	0	0	0	1	0	1	1	2	0	1	8	3
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hypertensive Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Ischemic Heart Disease	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Other Forms of Heart Disease	0	0	0	0	0	1	0	1	1	2	0	1	5	2
Hypertension	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Cerebrovascular Diseases	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Arteriosclerosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Circulatory Diseases	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Respiratory Diseases	0	1	0	0	0	0	0	0	0	0	1	0	2	0
Influenza / Pneumonia	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Chronic Obstructive Pulmonary Diseases	0	0	0	0	0	0	0	0	0	0	1	0	2	0
Other Respiratory Diseases	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peptic Ulcer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cirrhosis of the Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Nephritis and Nephrosis	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Perinatal Conditions	1	3	0	0	0	0	0	0	0	0	0	0	0	0
Symptoms and Ill-Defined Conditions	3	2	0	0	0	0	0	0	0	0	1	0	0	1
All Other Diseases	2	0	1	1	0	0	0	0	0	0	0	1	0	3
EXTERNAL CAUSES:														
Accidents	1	0	0	1	2	3	4	5	5	1	10	2	5	0
Motor Vehicle	1	0	0	1	0	2	2	0	5	0	2	0	2	0
Other Means of Transport	0	0	0	0	2	0	1	5	0	1	2	2	1	0
Poisoning	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Falls	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Fires	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning and Submersion	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Firearm Missile	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Adverse Effects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	0	0	0	0	0	0	0	0	0	0	2	0	2	0
Suicide	0	0	0	0	0	0	1	0	0	0	2	1	1	1
Homicide and Legal Intervention	0	0	0	0	0	1	0	0	0	0	1	0	0	0
All Other External Causes	0	0	0	0	0	0	0	0	0	0	1	1	2	1

TABLE 55 (Continued)
RESIDENT DEATHS BY AGE GROUP, BY SEX, AND BY SELECTED CAUSES OF DEATH
MAUI COUNTY 1989

CAUSES OF DEATH	AGE (IN YEARS)												
	50 to 59		60 to 69		70 to 79		80 or older		Unknown		Total		
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F	Total
TOTAL DEATHS	28	18	62	35	90	49	82	90	0	0	336	243	579
DISEASES:													
Infective and Parasitic Diseases	2	0	1	1	0	2	1	2	0	0	6	6	12
Tuberculosis	0	0	0	0	0	0	0	0	0	0	0	0	0
HIV Infection	2	0	0	0	0	0	0	0	0	0	4	0	4
Other Infective and Parasitic Diseases	0	0	1	1	0	2	1	2	0	0	2	6	8
Malignant Neoplasms	9	7	23	16	25	10	16	14	0	0	85	57	142
Of the Digestive Organs	1	0	8	5	7	3	3	4	0	0	22	14	36
Of the Respiratory System	4	0	7	4	8	5	3	1	0	0	25	11	36
Of the Breast	0	3	0	2	0	0	0	3	0	0	0	11	11
Of the Genital Organs	0	1	1	2	3	1	5	0	0	0	10	4	14
Of the Urinary Organs	1	1	1	0	1	1	0	1	0	0	3	4	7
Leukemia	0	0	0	0	3	0	2	1	0	0	5	2	7
Other Malignant Neoplasms	3	2	6	3	3	0	3	4	0	0	20	11	31
Diabetes Mellitus	0	0	0	2	3	2	0	4	0	0	3	10	13
Diseases of the Circulatory System	10	7	25	8	42	24	42	40	0	0	131	87	218
Diseases of the Heart	9	5	18	5	29	17	32	31	0	0	97	66	163
Rheumatic Fever and Chronic Rheumatic Heart Disease	0	1	0	0	0	0	0	0	0	0	0	2	2
Hypertensive Heart Disease	0	0	0	0	2	0	1	0	0	0	5	0	5
Ischemic Heart Disease	4	2	6	2	15	12	17	13	0	0	43	29	72
Other Forms of Heart Disease	5	2	12	3	12	5	14	18	0	0	49	35	84
Hypertension	0	0	0	0	0	0	1	0	0	0	2	0	2
Cerebrovascular Diseases	1	2	6	3	12	6	7	9	0	0	27	20	47
Arteriosclerosis	0	0	0	0	0	0	1	0	0	0	1	0	1
Other Circulatory Diseases	0	0	1	0	1	1	1	0	0	0	4	1	5
Respiratory Diseases	3	0	1	1	5	3	10	11	0	0	22	16	38
Influenza / Pneumonia	1	0	0	1	4	2	5	7	0	0	10	11	21
Chronic Obstructive Pulmonary Diseases	2	0	0	0	1	1	3	1	0	0	9	2	11
Other Respiratory Diseases	0	0	1	0	0	0	2	3	0	0	3	3	6
Peptic Ulcer	0	0	1	0	1	0	1	1	0	0	3	1	4
Cirrhosis of the Liver	1	0	1	3	1	0	2	0	0	0	5	4	9
Nephritis and Nephrosis	0	0	0	1	1	1	2	1	0	0	4	3	7
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	0	0	0	0	0	0	0	0	0	0	1	0	1
Perinatal Conditions	0	0	0	0	0	0	0	0	0	0	1	3	4
Symptoms and Ill-Defined Conditions	0	1	0	0	1	1	0	1	0	0	5	6	11
All Other Diseases	1	2	7	2	6	6	7	15	0	0	24	30	54
EXTERNAL CAUSES:													
Accidents	2	1	2	0	1	0	1	1	0	0	33	14	47
Motor Vehicle	0	1	0	0	0	0	1	0	0	0	13	4	17
Other Means of Transport	1	0	0	0	0	0	0	0	0	0	7	8	15
Poisoning	0	0	0	0	0	0	0	0	0	0	1	0	1
Falls	0	0	2	0	0	0	0	1	0	0	3	1	4
Fires	0	0	0	0	0	0	0	0	0	0	0	0	0
Drowning and Submersion	1	0	0	0	0	0	0	0	0	0	3	0	3
Firearm Missile	0	0	0	0	0	0	0	0	0	0	1	1	2
Adverse Effects	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	0	0	0	0	1	0	0	0	0	0	5	0	5
Suicide	0	0	1	1	1	0	0	0	0	0	6	3	9
Homicide and Legal Intervention	0	0	0	0	0	0	0	0	0	0	1	1	2
All Other External Causes	0	0	0	0	3	0	0	0	0	0	6	2	8

TABLE 56
MALE RESIDENT DEATHS BY ETHNICITY AND BY SELECTED CAUSES OF DEATH
STATE OF HAWAII 1989

CAUSES OF DEATH (Unknown Sex Categorized as Male)	ETHNICITY														
	Caucasian	Hawaiian	Pt-Hawaiian	Chinese	Filipino	Japanese	P. Rican	Korean	Samoan	Blk	Portuguese	Vietnamese	Oth Races	Unk	Total
DISEASES:															
Infective and Parasitic Diseases	54	1	13	4	12	15	0	0	2	0	4	0	1	0	106
Tuberculosis	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3
HIV Infection	44	0	10	1	3	4	0	0	0	0	1	0	1	0	64
Other Infective and Parasitic Diseases	10	1	3	1	9	10	0	0	2	0	3	0	0	0	39
Malignant Neoplasms	208	30	85	61	120	282	7	21	7	3	44	0	7	0	875
Of the Digestive Organs	34	12	20	22	41	122	5	11	2	2	10	0	4	0	285
Of the Respiratory System	68	9	31	17	32	78	2	5	3	0	15	0	0	0	260
Of the Breast	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Of the Genital Organs	27	3	4	6	18	19	0	1	0	0	4	0	1	0	83
Of the Urinary Organs	8	0	5	1	2	13	0	0	0	0	2	0	0	0	31
Leukemia	9	3	4	3	11	11	0	0	1	0	3	0	2	0	47
Other Malignant Neoplasms	62	3	21	12	16	39	0	4	1	1	10	0	0	0	169
Diabetes Mellitus	7	9	12	5	9	24	1	1	0	1	3	0	0	0	72
Diseases of the Circulatory System	304	76	167	103	319	356	21	13	22	4	87	1	10	0	1483
Diseases of the Heart	252	63	138	88	246	260	15	11	15	1	70	1	5	0	1165
Rheumatic Fever and Chronic Rheumatic Heart Disease	1	0	0	1	1	2	0	0	1	0	0	0	0	0	6
Hypertensive Heart Disease	4	3	3	0	13	13	0	0	0	0	4	0	0	0	40
Ischemic Heart Disease	123	31	64	66	145	149	10	9	8	1	42	0	4	0	652
Other Forms of Heart Disease	124	29	71	21	87	96	5	2	6	0	24	1	1	0	467
Hypertension	3	2	1	1	4	4	0	0	0	0	0	0	0	0	15
Cerebrovascular Diseases	37	6	23	9	58	73	5	2	7	3	15	0	4	0	242
Arteriosclerosis	2	1	0	1	1	4	0	0	0	0	0	0	0	0	9
Other Circulatory Diseases	10	4	5	4	10	15	1	0	0	0	2	0	1	0	52
Respiratory Diseases	72	15	33	23	57	131	6	3	1	4	17	0	1	0	363
Influenza / Pneumonia	21	5	12	15	22	53	5	2	1	0	10	0	0	0	146
Chronic Obstructive Pulmonary Diseases	35	7	14	4	15	44	0	0	0	2	5	0	0	0	126
Other Respiratory Diseases	16	3	7	4	20	34	1	1	0	2	2	0	1	0	91
Peptic Ulcer	2	1	2	2	1	5	0	0	1	0	4	0	0	0	18
Cirrhosis of the Liver	22	1	5	2	6	10	0	2	0	0	4	0	0	0	52
Nephritis and Nephrosis	8	0	3	1	12	6	0	0	0	2	1	0	0	1	34
Congenital Anomalies	3	0	12	3	4	1	0	0	1	0	0	0	0	0	24
Perinatal Conditions	4	0	17	0	7	3	0	1	1	1	0	0	0	0	34
Symptoms and Ill-Defined Conditions	8	1	13	2	5	4	0	0	0	2	0	0	1	0	36
All Other Diseases	60	10	18	14	40	78	5	6	1	2	12	0	1	0	247
EXTERNAL CAUSES:															
Accidents	65	6	43	12	31	31	1	1	7	3	4	2	5	0	211
Motor Vehicle	31	1	28	3	13	11	0	1	3	2	2	1	3	0	99
Other Means of Transport	7	2	0	1	4	3	0	0	0	0	0	1	0	0	18
Poisoning	6	1	1	1	1	0	0	0	0	0	0	0	2	0	12
Falls	4	1	4	1	4	10	1	0	2	0	1	0	0	0	28
Fires	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Drowning and Submersion	8	0	3	2	2	4	0	0	0	1	0	0	0	0	20
Firearm Missile	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
Adverse Effects	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Other Types of Accidents	9	1	6	2	6	3	0	0	2	0	1	0	0	0	30
Suicide	37	2	11	0	9	16	1	6	1	0	3	0	2	0	88
Homicide and Legal Intervention	11	0	11	0	6	2	0	0	5	0	0	0	3	0	38
All Other External Causes	13	1	7	2	8	5	0	0	0	0	0	0	2	0	38

TABLE 57
FEMALE RESIDENT DEATHS BY ETHNICITY AND BY SELECTED CAUSES OF DEATH
STATE OF HAWAII 1989

CAUSES OF DEATH (Unknown Sex Categorized as Male)	ETHNICITY														
	Caucasian	Hawaiian	Pt-Hawaiian	Chinese	Filipino	Japanese	P. Rican	Korean	Samoan	Blk	Portuguese	Vietnamese	Oth Races	Unk	Total
DISEASES:															
Infective and Parasitic Diseases	7	3	2	4	3	18	3	0	0	0	2	0	0	0	42
Tuberculosis	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
HIV Infection	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Other Infective and Parasitic Diseases	6	3	2	3	3	18	2	0	0	0	2	0	0	0	39
Malignant Neoplasms	185	22	93	50	67	212	7	17	7	2	27	1	6	0	696
Of the Digestive Organs	46	4	23	19	19	93	2	8	1	0	8	0	1	0	224
Of the Respiratory System	46	5	24	8	7	29	1	3	2	1	6	1	1	0	134
Of the Breast	22	6	16	3	13	22	1	2	3	0	3	0	4	0	95
Of the Genital Organs	25	5	8	9	7	19	0	1	0	0	1	0	0	0	75
Of the Urinary Organs	1	1	3	1	4	8	1	0	0	0	2	0	0	0	21
Leukemia	3	1	4	2	3	4	0	0	1	0	1	0	0	0	19
Other Malignant Neoplasms	42	0	15	8	14	37	2	3	0	1	6	0	0	0	128
Diabetes Mellitus	8	6	13	4	12	22	4	3	0	0	4	0	1	0	77
Diseases of the Circulatory System	250	47	130	96	91	353	18	15	19	3	62	0	3	0	1087
Diseases of the Heart	192	34	103	80	64	248	14	11	14	3	46	0	3	0	812
Rheumatic Fever and Chronic Rheumatic Heart Disease	3	1	3	2	4	4	1	0	0	0	0	0	0	0	18
Hypertensive Heart Disease	6	0	1	3	2	10	0	0	0	0	1	0	0	0	23
Ischemic Heart Disease	81	21	50	50	35	137	8	9	6	2	30	0	2	0	431
Other Forms of Heart Disease	102	12	49	25	23	97	5	2	8	1	15	0	1	0	340
Hypertension	2	1	2	0	0	6	0	0	0	0	1	0	0	0	12
Cerebrovascular Diseases	51	10	22	14	26	84	4	2	4	0	15	0	0	0	232
Arteriosclerosis	1	2	0	0	0	4	0	1	1	0	0	0	0	0	9
Other Circulatory Diseases	4	0	3	2	1	11	0	1	0	0	0	0	0	0	22
Respiratory Diseases	66	6	29	9	19	94	3	7	1	1	15	0	1	0	251
Influenza / Pneumonia	32	2	12	3	8	56	1	4	1	1	6	0	0	0	126
Chronic Obstructive Pulmonary Disease	22	3	15	1	8	16	0	1	0	0	4	0	1	0	71
Other Respiratory Disease	12	1	2	5	3	22	2	2	0	0	5	0	0	0	54
Peptic Ulcer	2	0	0	1	1	3	0	1	0	0	1	0	0	0	9
Cirrhosis of the Liver	10	0	3	1	2	5	0	0	1	0	2	0	0	0	24
Nephritis and Nephrosis	2	2	4	0	6	6	0	1	1	0	0	0	0	1	23
Complications of Pregnancy, Childbirth, and the Puerperium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Congenital Anomalies	2	1	3	1	3	5	0	0	0	0	0	0	1	0	16
Perinatal Conditions	7	0	13	0	3	1	0	1	1	3	0	0	0	0	29
Symptoms and Ill-Defined Conditions	5	0	5	0	4	7	0	1	0	0	1	0	0	0	23
All Other Diseases	74	6	32	7	22	88	2	1	5	0	14	0	1	0	252
EXTERNAL CAUSES:															
Accidents	17	1	23	2	5	13	1	4	1	2	0	0	1	0	70
Motor Vehicle	7	0	12	1	4	8	1	3	0	1	0	0	1	0	38
Other Means of Transport	1	1	6	0	0	0	0	0	0	0	0	0	0	0	8
Poisoning	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Falls	5	0	3	1	1	4	0	1	0	0	0	0	0	0	15
Fires	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Drowning and Submersion	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Firearm Missile	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Adverse Effects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Accidents	3	0	1	0	0	1	0	0	0	0	0	0	0	0	5
Suicide	13	0	2	3	1	9	0	1	1	1	0	0	0	0	31
Homicide and Legal Intervention	4	0	2	2	1	1	0	0	1	0	1	1	1	0	14
All Other External Causes	6	0	3	2	0	5	0	0	0	0	1	1	0	0	18

TABLE 58
RESIDENT DEATHS FROM MALIGNANT NEOPLASM BY MAJOR AND SELECTED SITES, SEX AND AGE
1989

SITE OR TYPE OF NEOPLASM	Less than 1		1 to 4		5 to 14		15 to 19		20 to 29		30 to 39	
(Unknown Sex Classified as Male)	M	F	M	F	M	F	M	F	M	F	M	F
Lip, Oral Cavity, and Pharynx	0	0	0	0	0	0	0	0	0	0	2	0
Lip	0	0	0	0	0	0	0	0	0	0	0	0
Tongue	0	0	0	0	0	0	0	0	0	0	0	0
Major Salivary Glands	0	0	0	0	0	0	0	0	0	0	1	0
Gum	0	0	0	0	0	0	0	0	0	0	0	0
Floor of Mouth	0	0	0	0	0	0	0	0	0	0	0	0
Other and Unspecified Parts of the Mouth	0	0	0	0	0	0	0	0	0	0	0	0
Oropharynx	0	0	0	0	0	0	0	0	0	0	0	0
Nasopharynx	0	0	0	0	0	0	0	0	0	0	1	0
Hypopharynx	0	0	0	0	0	0	0	0	0	0	0	0
Other and Ill-Defined Sites Within the Lip, Oral Cavity, and Pharynx	0	0	0	0	0	0	0	0	0	0	0	0
Digestive Organs and Peritoneum	0	0	0	0	0	0	0	0	0	0	12	3
Oesophagus	0	0	0	0	0	0	0	0	0	0	2	0
Stomach	0	0	0	0	0	0	0	0	0	0	1	1
Small Intestine, Including Duodenum	0	0	0	0	0	0	0	0	0	0	0	0
Colon	0	0	0	0	0	0	0	0	0	0	3	2
Rectum, Rectosigmoid Junction, and Anus	0	0	0	0	0	0	0	0	0	0	1	0
Liver and Intrahepatic Bile Ducts	0	0	0	0	0	0	0	0	0	0	4	0
Gallbladder and Extrahepatic Bile Ducts	0	0	0	0	0	0	0	0	0	0	1	0
Pancreas	0	0	0	0	0	0	0	0	0	0	0	0
Retroperitoneum and Peritoneum	0	0	0	0	0	0	0	0	0	0	0	0
Other and Ill-Defined Sites Within the Digestive Organs and Peritoneum	0	0	0	0	0	0	0	0	0	0	0	0
Respiratory and Intrathoracic Organs	0	0	0	0	0	0	0	0	0	0	3	1
Nasal Cavities, Middle Ear, and Accessory Sinuses	0	0	0	0	0	0	0	0	0	0	0	0
Larynx	0	0	0	0	0	0	0	0	0	0	0	0
Trachea, Bronchus, and Lung	0	0	0	0	0	0	0	0	0	0	2	1
Pleura, Thymus, Heart, Mediastinum, and Other and Ill-Defined Sites Within the Respiratory System and Intrathoracic Organs	0	0	0	0	0	0	0	0	0	0	1	0
Bone, Connective Tissue, Skin, and Breast	0	0	0	0	0	1	1	0	0	0	0	7
Bone and Articular Cartilage	0	0	0	0	0	1	1	0	0	0	0	0
Connective and Other Soft Tissue	0	0	0	0	0	0	0	0	0	0	0	0
Melanoma of Skin	0	0	0	0	0	0	0	0	0	0	0	0
Neoplasm of Skin	0	0	0	0	0	0	0	0	0	0	0	0
Breast	0	0	0	0	0	0	0	0	0	0	0	7
Genitourinary Organs	0	0	0	0	0	0	0	0	0	1	2	8
Cervix Uteri	0	0	0	0	0	0	0	0	0	0	0	3
Placenta	0	0	0	0	0	0	0	0	0	0	0	2
Other Parts of the Uterus	0	0	0	0	0	0	0	0	0	0	0	0
Ovary and Other Uterine Adnexa	0	0	0	0	0	0	0	0	0	1	0	2
Other and Unspecified Female Genital Organs	0	0	0	0	0	0	0	0	0	0	0	0
Prostate	0	0	0	0	0	0	0	0	0	0	0	0
Testis	0	0	0	0	0	0	0	0	0	0	0	0
Penis and Other Male Genital Organs	0	0	0	0	0	0	0	0	0	0	1	0
Bladder	0	0	0	0	0	0	0	0	0	0	1	1
Kidney and Other and Unspecified Urinary Organs	0	0	0	0	0	0	0	0	0	0	0	0
Other and Unspecified Sites	0	0	0	1	1	1	0	0	0	2	2	0
Eye	0	0	0	0	0	0	0	0	0	0	0	0
Brain	0	0	0	1	0	1	0	0	0	1	1	0
Other and Unspecified Parts of Nervous System	0	0	0	0	0	0	0	0	0	0	0	0
Thyroid Gland	0	0	0	0	0	0	0	0	0	0	0	0
Other Endocrine Glands and Related Structures	0	0	0	0	1	0	0	0	0	0	0	0
Other and Ill-Defined Sites	0	0	0	0	0	0	0	0	0	0	0	0
Lymph Nodes (Secondary and Unspecified)	0	0	0	0	0	0	0	0	0	0	0	0
Respiratory and Digestive Systems (Secondary)	0	0	0	0	0	0	0	0	0	0	0	0
Other Specified Sites (Secondary)	0	0	0	0	0	0	0	0	0	0	0	0
Without Specification of Site	0	0	0	0	0	0	0	0	0	1	1	0
Lymphatic and Haematopoietic Tissue	0	0	1	0	4	2	1	0	2	0	5	3
Lymphosarcoma and Reticulosarcoma	0	0	0	0	1	0	0	0	0	0	0	0
Hodgkin's Disease	0	0	0	0	0	0	0	0	0	0	0	2
Other, of Lymphoid and Hystiocytic Tissue	0	0	0	0	0	0	0	0	1	0	3	0
Multiple Myeloma and Immunoproliferative Neoplasms	0	0	0	0	0	0	0	0	0	0	0	0
Lymphoid Leukaemia	0	0	0	0	1	1	1	0	0	0	2	0
Myeloid Leukaemia	0	0	1	0	1	1	0	0	1	0	0	0
Monocytic Leukaemia	0	0	0	0	0	0	0	0	0	0	0	0
Other Specified and Unspecified Leukaemia	0	0	0	0	1	0	0	0	0	0	0	1

TABLE 58 (Continued)
RESIDENT DEATHS FROM MALIGNANT NEOPLASM BY MAJOR AND SELECTED SITES, SEX AND AGE
1989

SITE OR TYPE OF NEOPLASM (Unknown Sex Classified as Male)	40 to 49		50 to 59		60 to 69		70 to 79		80 and older		All Ages		
	M	F	M	F	M	F	M	F	M	F	M	F	Total
Lip, Oral Cavity, and Pharynx	1	0	3	1	6	4	5	3	3	6	20	14	34
Lip	0	0	0	0	0	0	0	0	0	0	0	0	0
Tongue	1	0	0	0	1	0	1	0	0	2	3	2	5
Major Salivary Glands	0	0	0	0	1	0	1	0	0	0	3	0	3
Gum	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor of Mouth	0	0	0	0	0	1	0	1	0	0	0	2	2
Other and Unspecified Parts of the Mouth	0	0	0	1	0	1	1	1	0	0	1	3	4
Oropharynx	0	0	0	0	0	0	1	0	2	2	3	2	5
Nasopharynx	0	0	2	0	2	1	0	0	1	0	6	1	7
Hypopharynx	0	0	1	0	1	1	0	0	0	1	2	2	4
Other and Ill-Defined Sites Within the Lip, Oral Cavity, and Pharynx	0	0	0	0	1	0	1	1	0	1	2	2	4
Digestive Organs and Peritoneum	5	14	25	19	94	52	96	67	53	69	285	224	509
Oesophagus	2	0	3	0	11	1	7	2	8	1	31	4	35
Stomach	0	2	5	2	19	10	26	12	11	15	62	42	104
Small Intestine, Including Duodenum	0	0	0	0	3	0	0	0	0	0	3	0	3
Colon	0	3	7	8	17	9	29	29	20	23	76	74	150
Rectum, Rectosigmoid Junction, and Anus	0	1	0	3	5	3	11	6	4	8	21	21	42
Liver and Intrahepatic Bile Ducts	1	2	2	0	19	10	12	3	5	3	43	18	61
Gallbladder and Extrahepatic Bile Ducts	0	2	4	0	5	4	0	2	1	4	11	12	23
Pancreas	1	4	4	6	14	15	11	13	6	12	36	50	86
Retroperitoneum and Peritoneum	1	0	0	0	0	0	0	0	0	1	1	1	2
Other and Ill-Defined Sites Within the Digestive Organs and Peritoneum	0	0	0	0	1	0	0	0	0	2	1	2	3
Respiratory and Intrathoracic Organs	13	11	39	21	93	45	82	43	30	13	260	134	394
Nasal Cavities, Middle Ear, & Acc. Sinuses	1	0	0	0	3	0	2	0	1	0	7	0	7
Larynx	1	0	0	0	1	1	2	0	3	0	7	1	8
Trachea, Bronchus, and Lung	11	11	38	21	89	44	76	43	26	13	242	133	375
Pleura, Thymus, Heart, Mediastinum, and Other and Ill-Defined Sites Within the Respiratory System & Intrathoracic Organs	0	0	1	0	0	0	2	0	0	0	4	0	4
Bone, Connective Tissue, Skin, and Breast	1	13	3	24	7	24	7	23	4	12	23	104	127
Bone and Articular Cartilage	0	0	0	0	1	0	0	0	0	0	2	1	3
Connective and Other Soft Tissue	0	0	0	0	0	1	0	1	2	0	2	2	4
Melanoma of Skin	0	1	1	0	2	0	3	1	1	1	7	3	10
Neoplasm of Skin	1	0	2	0	4	1	4	1	1	1	12	3	15
Breast	0	12	0	24	0	22	0	20	0	10	0	95	95
Genitourinary Organs	1	12	4	11	18	26	47	21	42	17	114	96	210
Cervix Uteri	0	4	0	1	0	1	0	0	0	1	0	10	10
Placenta	0	0	0	0	0	0	0	0	0	0	0	2	2
Other Parts of the Uterus	0	3	0	2	0	9	0	7	0	3	0	24	24
Ovary and Other Uterine Adnexa	0	4	0	7	0	12	0	6	0	5	0	37	37
Other and Unspec. Female Genital Organs	0	0	0	0	0	1	0	1	0	0	0	2	2
Prostate	0	0	1	0	8	0	39	0	34	0	82	0	82
Testis	0	0	0	0	0	0	0	0	0	0	0	0	0
Penis and Other Male Genital Organs	0	0	0	0	0	0	0	0	0	0	1	0	1
Bladder	0	0	1	1	3	0	6	4	5	5	16	11	27
Kidney &-Oth and Unspec. Urinary Organs	1	1	2	0	7	3	2	3	3	3	15	10	25
Other and Unspecified Sites	5	3	9	8	29	17	20	13	19	20	85	65	150
Eye	0	0	0	0	0	0	0	0	0	0	0	0	0
Brain	4	1	2	1	5	2	4	1	2	1	18	9	27
Other & Unspec. Parts of Nervous System	0	0	0	0	0	0	0	0	0	0	0	0	0
Thyroid Gland	0	0	0	0	0	1	0	0	2	0	2	1	3
Oth Endocrine Glands & Related Structures	0	0	0	0	0	1	1	1	0	0	2	2	4
Other and Ill-Defined Sites	0	0	0	0	1	0	0	1	3	4	4	5	9
Lymph Nodes (Secondary and Unspecified)	0	0	0	0	0	0	0	0	0	0	0	0	0
Resp. and Digestive Systems (Secondary)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Specified Sites (Secondary)	0	0	0	0	0	0	0	0	0	0	0	0	0
Without Specification of Site	1	2	7	7	23	13	15	10	12	15	59	48	107
Lymphatic and Haematopoietic Tissue	4	3	6	4	19	16	16	14	12	13	70	55	125
Lymphosarcoma and Reticulosarcoma	1	0	0	0	0	2	0	1	0	0	2	3	5
Hodgkin's Disease	0	0	0	0	2	2	0	0	0	1	2	5	7
Other, of Lymphoid and Hystiocytic Tissue	1	1	2	2	9	7	12	9	5	4	33	23	56
Multiple Myeloma and Immunoproliferative Neoplasms	0	0	1	0	1	5	1	1	1	3	4	9	13
Lymphoid Leukaemia	1	1	0	0	3	0	1	1	4	1	13	4	17
Myeloid Leukaemia	1	1	3	2	4	0	1	1	2	4	14	9	23
Monocytic Leukaemia	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Specified and Unspecified Leukaemia	0	0	0	0	0	0	1	1	0	0	2	2	4

TABLE 59
HAWAII RESIDENT DEATHS OCCURRING OUTSIDE THE STATEa/
BY ETHNICITY, AGE, AND SEX
1989

AGE OF DECEDENT	ETHNICITY AND SEX OF DECEDENT																			
	Caucasian		Japanese		Chinese		Filipino		Hawaiian/ Part Hawaiian		Korean		Black		Other Pac. Is.		Other & Unk.		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under 1	-	1	1	-	1	-	-	-	-	-	-	-	-	1	-	-	1	1	3	3
1 - 19	6	2	1	-	-	-	-	-	1	-	-	-	1	-	1	1	7		17	4
20- 24	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	2	7	4
25 -34	12	5	-	-	-	-	1	-	1	-	-	-	-	-	-	-	8	2	22	7
35 - 44	11	3	2	-	1	-	-	-	1	1	-	-	-	-	2	-	7	2	24	6
45 - 54	7	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2	-	10	2
55 - 64	3	1	1	-	1	-	-	-	3	2	-	-	-	-	-	2	2	-	10	5
65 - 74	7	2	1	2	1	-	1	-	-	-	-	-	-	-	1	-	1	1	12	5
75 - 84	9	6	-	-	-	1	1	1	-	-	-	-	-	-	-	1	-	1	10	10
85 & Over	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5
Total	61	27	6	2	4	1	3	1	7	4	-	-	1	1	4	5	32	10	118	51

Note: a/ Includes deaths occurring in other states, Guam, and Canada for those deaths reported to the Hawaii Department of Health by other health departments.

FIGURE 4
RESIDENT INFANT DEATHS (UNDER 1 YEAR OF AGE)
1900-1989

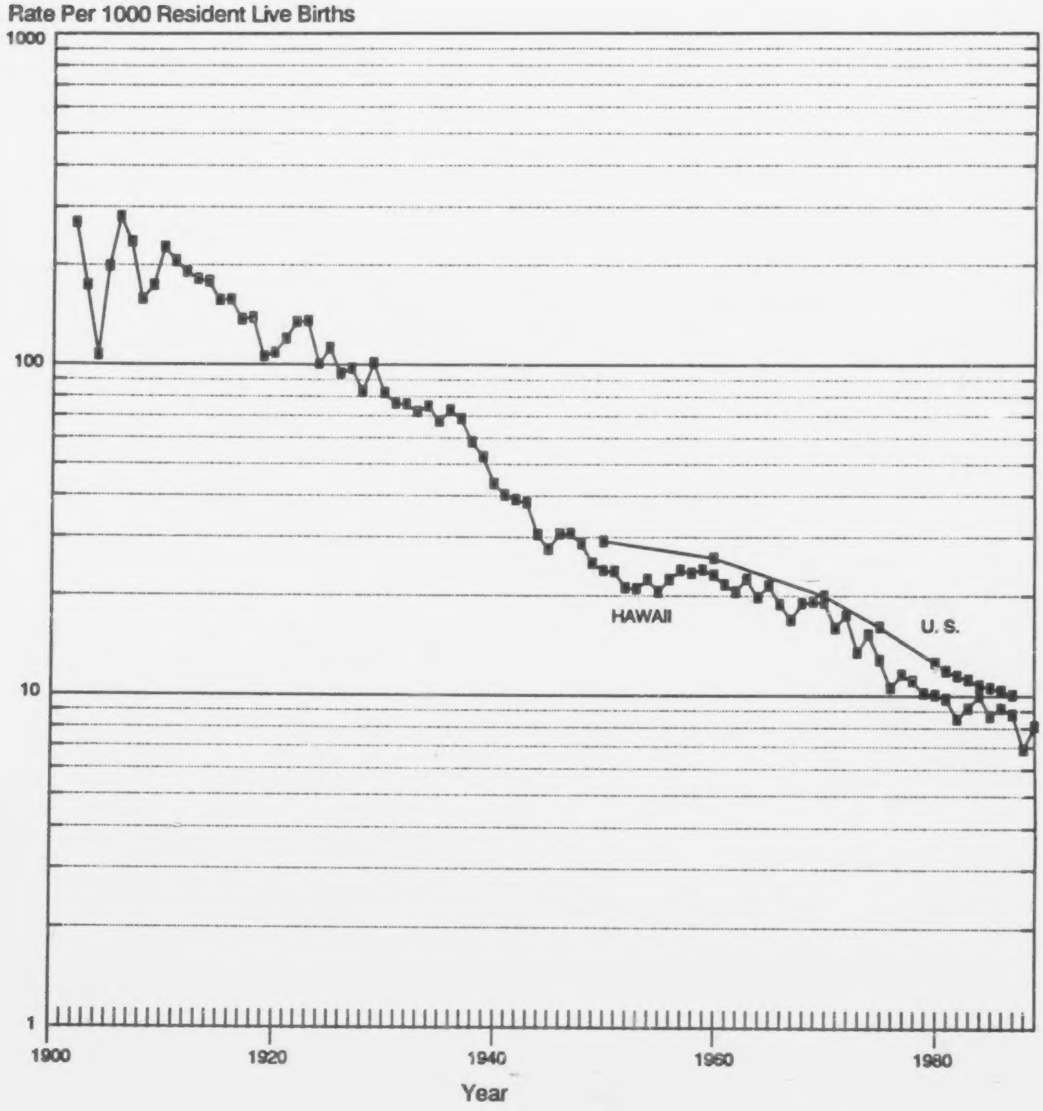


FIGURE 5
RESIDENT INFANT DEATHS (UNDER 28 DAYS OF AGE)
1900-1989

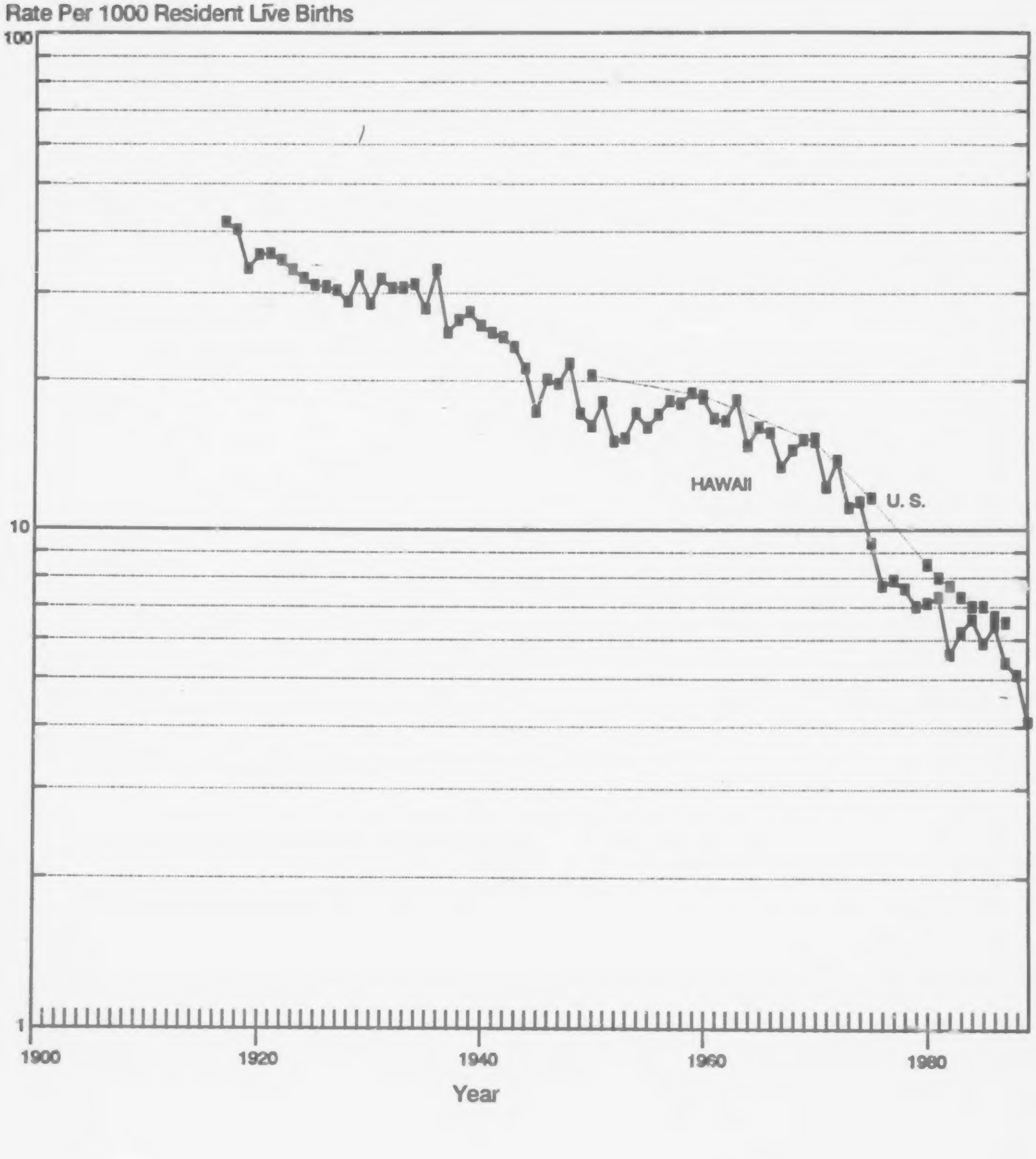


FIGURE 6
RESIDENT INFANT DEATHS UNDER 1 DAY OF AGE
1900-1989

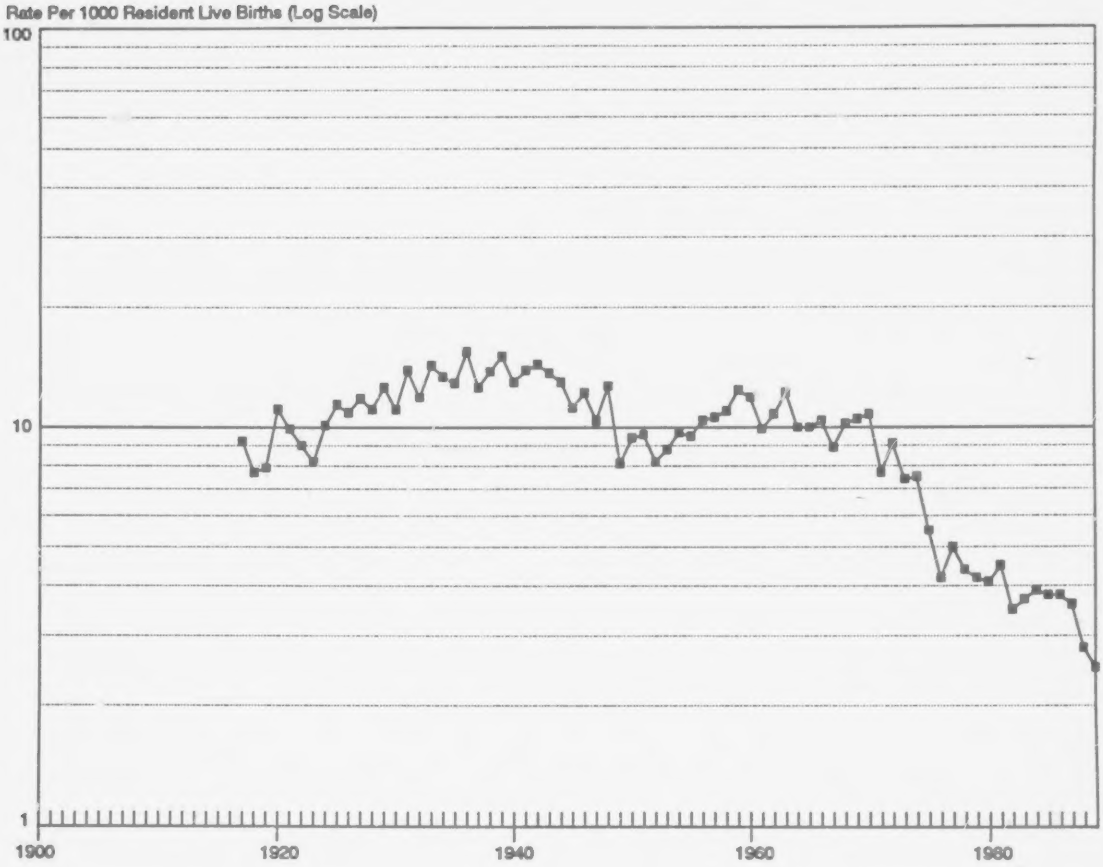


TABLE 60
INFANT DEATHS - GEOGRAPHICAL AREA BY ETHNICITY OF INFANT
1989

COUNTY	PLACE OF OCCUR.		PLACE OF RESIDENCE		PERINATAL MORTALITY		ETHNICITY OF INFANT									
	No.	Rate a/	No.	Rate a/	No.	Rate b/	Caucasian	Pt. Hawaiian	Chinese	Filipino	Japanese	Korean	Samoan	Black	Other	Total
Hawaii	14	7.0	19	9.5	15	7.4	3	11	0	1	3	0	0	0	1	19
Honolulu	144	9.8	111	7.5	133	9.0	22	42	7	17	7	3	3	7	3	111
Kauai	3	3.5	12	13.9	7	8.1	1	7	0	2	1	0	1	0	0	12
Maui	9	5.2	14	8.1	18	10.3	0	13	0	1	0	0	0	0	0	14
Foreign	-	-	9	-	-	-	2	1	0	0	0	2	1	0	3	9
Other Non-Resident	-	-	5	-	-	-	4	0	0	0	0	0	0	1	0	5
Total	170	8.8	170	8.8	174	8.9	32	74	7	21	11	5	5	8	7	170
Res. Rate			156	8.1												

Notes: a/ Number of deaths per 1,000 live births.
b/ Resident infant under 1 week of age plus the number of fetal deaths of 20 weeks or more gestation divided by the sum total resident live births plus resident fetal deaths of 20 weeks or more gestation, per 1,000.

TABLE 61
INFANT DEATHS - AGE OF MOTHER BY ETHNICITY OF MOTHER
RESIDENTS
1989

ETHNICITY OF MOTHER	AGE OF MOTHER										
	14	15	16-17	18-19	20-24	25-29	30-34	35-39	40-44	Unknown	Total
Caucasian	0	0	1	3	10	12	4	3	0	0	33
Hawaiian	0	0	0	0	0	0	0	1	0	0	1
Part-Hawaiian	1	1	3	7	17	10	7	2	0	0	48
Chinese	0	0	0	1	2	3	1	0	0	0	7
Filipino	0	1	4	4	8	2	3	5	0	0	27
Japanese	0	0	0	0	1	3	10	2	1	0	17
Puerto Rican	0	0	0	0	0	1	0	0	0	0	1
Korean	0	0	0	0	0	2	0	1	0	0	3
Samoan	0	0	1	0	1	0	1	0	0	0	3
Black	0	0	0	1	2	1	1	2	0	1	8
Vietnamese	0	0	0	0	0	0	0	0	0	1	1
Other	0	0	0	0	5	0	0	1	0	1	7
Total	1	2	9	16	46	34	27	17	1	3	156

TABLE 62
INFANT DEATHS - ETHNICITY OF MOTHER BY MONTH OF FIRST PRENATAL CARE VISIT
RESIDENTS, 1989

ETHNICITY OF MOTHER	MONTH OF FIRST PRENATAL CARE VISIT											
	None	1	2	3	4	5	6	7	8	9	Un-known	Total
Caucasian	0	3	8	8	5	0	1	0	2	0	6	33
Hawaiian	0	0	0	1	0	0	0	0	0	0	0	1
Part-Hawaiian	3	5	9	6	3	3	2	1	1	1	14	48
Chinese	0	0	4	3	0	0	0	0	0	0	0	7
Filipino	1	1	8	5	0	2	0	2	1	0	7	27
Japanese	0	5	4	0	0	1	1	1	0	0	5	17
Puerto Rican	0	0	0	0	0	0	0	0	0	0	1	1
Korean	0	0	2	0	0	0	0	0	0	0	1	3
Samoan	1	0	0	0	0	1	0	0	0	0	1	3
Black	0	1	4	1	0	0	0	0	0	0	2	8
Vietnamese	0	0	0	0	0	0	0	0	0	0	1	1
Other	0	0	1	2	0	0	0	1	1	0	2	7
Total	5	15	40	26	8	7	4	5	5	1	40	156

TABLE 63
INFANT DEATHS - ETHNICITY OF INFANT BY AGE AND BIRTHWEIGHT
RESIDENTS
1989

ETHNICITY OF INFANT	AGE OF INFANT (DAYS)										BIRTHWEIGHT	
	Under 1 day		1-6		7-27		Over 27		Total		Under 1500 gmsb/	1500 - 2499 gmsb/
	No.	Ratesa/	No.	Ratesa/	No.	Ratesa/	No.	Ratesa/	No.	Ratesa/		
Caucasian	8	1.9	2	0.5	1	0.2	15	3.5	26	6.1	12	3
Hawaiian	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Part-Hawaiian	23	3.7	7	1.1	10	1.6	33	5.3	73	11.7	28	12
Chinese	1	1.3	1	1.3	1	1.3	4	5.1	7	8.9	3	0
Filipino	7	2.3	1	0.3	5	1.6	8	2.6	21	6.8	11	3
Japanese	4	1.8	1	0.4	0	0.0	6	2.6	11	4.8	3	2
Puerto Rican	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Korean	1	2.8	0	0.0	1	2.8	1	2.8	3	8.5	2	0
Samoan	0	0.0	0	0.0	1	2.0	3	6.1	4	8.1	3	0
Black	3	3.1	0	0.0	1	1.0	3	3.1	7	7.3	6	0
Vietnamese	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Other	1	1.6	0	0.0	0	0.0	3	4.9	4	6.6	0	0
Total	48	2.5	12	0.6	20	1.0	76	3.9	156	8.1	68	20

Note: a/ Rates are number of infant deaths per 1,000 live births.
b/ Birthweigths under 2500 grams are considered low birthweight. Birthweights under 1500 grams are considered very low.

TABLE 64
INFANT DEATHS BY CAUSE BY SEX, BIRTHWEIGHT, AND AGE
RESIDENTS
1989

CAUSE OF DEATH	TOTAL	SEX		BIRTHWEIGHT			AGE OF INFANT (DAYS)				NEONATAL a/	
		Male	Female.	Under 2500 gms	Over 2499 gms	Un-known	Under 1 Day	1-6 Days	7-27 Days	Over 27 Days	Under 28 Days	Rate
Infective Dis.	2	2	0	2	0	0	0	0	0	2	0	0.0
Meningitis	4	1	3	0	4	0	0	0	1	3	1	0.1
Pneumonia	5	3	2	1	4	0	0	0	0	5	0	0.0
Congenital Anomaly of Circ. System	16	11	5	6	10	0	2	2	4	8	8	0.4
Other Congen. Anomaly	14	10	4	10	1	3	3	3	3	5	9	0.5
Maternal Cond. Unrelated to Pregnancy	1	0	1	1	0	0	1	0	0	0	1	0.1
Complications of Pregnancy	2	1	1	2	0	0	2	0	0	0	2	0.1
Comp. of Placenta, Cord & Mem.	5	2	3	3	1	1	4	1	0	0	5	0.3
Birth Injury	3	0	3	3	0	0	0	3	0	0	3	0.2
Hemolytic Dis. of Newborn	0	0	0	0	0	0	0	0	0	0	0	0.0
Respiratory Distress Syndrome	11	9	2	11	0	0	4	1	5	1	10	0.5
Immaturity	28	15	13	24	0	4	28	0	0	0	28	1.4
Other Peri-natal Cond.	12	6	6	12	0	0	2	1	4	5	7	0.4
Sudden In-fant Death Syndrome	28	21	7	6	22	0	0	1	1	26	2	0.1
Accident	6	5	1	1	4	1	0	0	0	6	0	0.0
Other Ex-ternal Cond.	0	0	0	0	0	0	0	0	0	0	0	0.0
Child Abuse	3	2	1	0	3	0	0	0	0	3	0	0.0
All Other	12	8	4	6	3	3	2	0	2	8	4	0.2
Unknown	4	1	3	0	4	0	0	0	0	4	0	0.0
Total	156	97	59	88	56	12	48	12	20	76	80	4.1

Note: a/ Neonatal deaths are deaths of infants under 28 days of age. Rate is per 1,000 live births.

TABLE 65
MARRIAGES BY COUNTY AND MONTH OF OCCURRENCE
1989

COUNTY OF MARRIAGE	MONTH														
	Total	Per-cent	Rate a/	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hawaii	1589	9	13.0	95	123	119	95	141	158	155	161	144	120	140	138
Honolulu	10364	58	12.3	651	816	743	841	875	1002	983	965	954	815	856	860
Kauai	2960	16	58.0	158	205	226	270	291	263	243	285	283	267	249	220
Maui	3061	17	31.5	193	261	225	271	283	254	250	267	284	266	260	247
Total	17974	100	16.2	1097	1405	1313	1477	1593	1677	1631	1678	1665	1468	1505	1465

Note: a/ Rate is per 1,000 residents.

TABLE 66
MARRIAGES BY GEOGRAPHIC AREA AND MONTH OF OCCURRENCE
1989

GEOGRAPHIC AREA OF MARRIAGE	MONTH														
	Total	Per-cent	Rate a/	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
City of Hilo	436	2	9.3	23	23	33	29	40	54	46	50	33	30	38	37
Rest of Hi County	1153	6	15.3	72	100	86	66	101	104	109	111	111	90	102	101
Honolulu District	7501	42	19.9	457	590	544	574	622	708	698	711	713	606	633	645
Rest of Honolulu	2863	16	6.2	194	226	199	267	256	294	285	254	241	209	223	215
Isl of Kauai	2960	16	58.4	158	205	226	270	291	263	243	285	283	267	249	220
Isl of Lanai	12	<1	5.5	1	1	-	-	1	2	-	-	3	[illegible]	[illegible]	1
Isl of Maui	2971	17	33.7	189	253	220	269	274	246	242	258	274	255	254	237
Isl of Molokai	78	<1	11.6	3	7	5	2	8	6	8	9	7	10	4	9
Total	17974	100	16.2	1097	1405	1313	1477	1593	1677	1631	1678	1665	1468	1505	1465

Note: a/ Rate is per 1,000 residents.

TABLE 67
MARRIAGES BY COUNTY OF RESIDENCE OF GROOM AND BRIDE
1989

GROOM'S COUNTY OF RESIDENCE	BRIDE'S COUNTY OF RESIDENCE								
	Hawaii	Honolulu	Kauai	Maui a/	Other State	Foreign	Unknown	Total	Percent
Hawaii	923	23	3	6	6	6	-	967	5
Honolulu	18	6933	7	13	313	121	-	7405	41
Kauai	1	9	429	1	4	2	-	446	2
Maui a/	2	19	2	824	9	7	-	864	5
Other State	11	170	9	7	6992	35	-	7224	40
Foreign	7	62	1	3	34	961	-	1068	6
Total	962	7216	451	855	7358	1132	-	17974	100

Note: a/ Includes one couple from Kalawao.

TABLE 68
MARRIAGES BY GEOGRAPHIC AREA OF RESIDENCE OF GROOM AND BRIDE
1989

GROOM'S RESIDENCE	BRIDE'S RESIDENCE												
	City of Hilo	Rest of HI County	Honolulu District	Rest of Honolulu	Kauai	Lanai	Maui	Molokai	Other State	Foreign	Unknown	Total	Percent
City of Hilo	260	27	2	7	1	-	1	1	1	-	-	300	2
Rest of HI	29	607	8	6	2	-	4	-	5	6	-	667	4
Honolulu District	3	3	2664	277	2	-	8	-	58	58	-	3073	17
Rest of Honolulu	3	9	473	3519	5	-	4	1	255	63	-	4332	24
Isl of Kauai	-	1	6	3	429	-	1	-	4	2	-	446	2
Isl of Lanai	-	-	1	-	-	11	-	-	-	-	-	12	<1
Isl of Maui	2	-	6	9	2	-	774	-	8	6	-	807	4
Isl of Molokai	-	-	-	3	-	-	1	39	1	1	-	45	<1
Other State	5	6	83	87	9	-	5	2	6992	35	-	7224	40
Foreign	1	6	35	27	1	-	3	-	34	961	-	1068	6
Total	303	659	3278	3938	451	11	801	43	7358	1132	-	17974	100

VITAL STATISTICS - MARRIAGES

TABLE 69
MARRIAGES BY AGE OF GROOM AND AGE OF BRIDE
1989

AGE OF GROOM	AGE OF BRIDE															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
15-17	10	9	1	-	-	-	-	-	-	-	-	-	-	-	20	<1
18-19	49	172	103	11	3	1	2	-	-	-	-	-	-	-	341	2
20-24	66	538	1825	541	138	46	16	2	1	-	-	-	-	-	3173	18
25-29	13	117	1418	2152	606	182	52	14	3	1	-	-	-	-	4558	25
30-34	5	30	419	1334	1148	400	113	27	5	-	-	1	-	1	3483	19
35-39	3	7	128	546	821	604	204	67	7	2	-	1	-	-	2390	13
40-44	-	2	60	228	378	476	343	115	23	8	3	-	1	1	1638	9
45-49	-	2	27	91	150	216	262	172	51	8	1	-	-	-	980	5
50-54	-	-	6	25	56	78	152	156	79	21	7	1	1	-	582	3
55-59	-	-	-	8	19	33	55	82	52	34	13	5	-	-	301	2
60-64	-	-	1	8	12	17	22	37	40	32	45	7	2	-	223	1
65-69	-	1	-	1	2	7	9	21	30	15	39	24	3	1	153	1
70-74	-	-	-	-	2	-	3	3	4	8	15	21	13	10	79	<1
>74	-	1	-	-	-	2	2	-	3	3	8	8	8	18	53	<1
Total	146	879	3988	4945	3335	2062	1235	696	298	132	131	68	28	31	17974	100

TABLE 70
MARRIAGES BY AGE OF GROOM AND AGE OF BRIDE
GROOM IS A RESIDENT OF HAWAII
1989

AGE OF GROOM	AGE OF BRIDE															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
15-17	10	9	1	-	-	-	-	-	-	-	-	-	-	-	20	<1
18-19	47	157	95	11	2	1	2	-	-	-	-	-	-	-	315	3
20-24	65	484	1419	395	99	32	12	2	1	-	-	-	-	-	2509	26
25-29	11	100	871	1169	309	95	32	10	1	1	-	-	-	-	2599	27
30-34	5	23	236	608	528	194	63	10	3	-	-	1	-	1	1672	17
35-39	3	5	70	224	353	257	90	36	3	1	-	-	-	-	1042	11
40-44	-	2	28	103	157	194	124	42	12	6	2	-	1	1	672	7
45-49	-	2	11	40	67	69	92	63	16	2	-	-	-	-	362	4
50-54	-	-	2	11	18	23	54	46	24	5	3	-	-	-	186	2
55-59	-	-	-	3	8	14	16	23	17	10	10	3	-	-	104	1
60-64	-	-	1	6	6	9	13	11	14	8	16	-	-	-	84	1
65-69	-	1	-	1	2	5	4	11	13	5	8	7	1	1	59	1
70-74	-	-	-	-	2	-	3	1	1	1	5	5	5	5	28	<1
>74	-	1	-	-	-	2	2	-	2	1	5	5	4	8	30	<1
Total	141	784	2734	2571	1551	895	507	255	107	40	49	21	11	16	9682	100

TABLE 71
MARRIAGES BY AGE OF GROOM AND AGE OF BRIDE
BRIDE IS A RESIDENT OF HAWAII
1989

AGE OF GROOM	AGE OF BRIDE															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
15-17	10	9	1	-	-	-	-	-	-	-	-	-	-	-	20	<1
18-19	44	153	91	7	2	1	2	-	-	-	-	-	-	-	300	3
20-24	63	455	1344	384	99	30	12	2	1	-	-	-	-	-	2390	25
25-29	11	98	863	1146	302	95	32	9	1	1	-	-	-	-	2558	27
30-34	5	22	232	612	527	197	61	10	2	-	-	1	-	1	1670	18
35-39	3	5	71	222	354	252	90	34	2	1	-	-	-	-	1034	11
40-44	-	-	28	101	156	191	122	41	11	6	2	-	1	1	660	7
45-49	-	2	11	40	69	71	91	61	15	1	-	-	-	-	361	4
50-54	-	-	1	10	18	24	53	44	22	5	3	-	-	-	180	2
55-59	-	-	-	3	8	14	16	25	18	11	10	4	-	-	109	1
60-64	-	-	1	6	6	9	14	11	13	8	18	-	-	-	86	1
65-69	-	1	-	1	1	5	4	9	13	4	9	7	1	1	56	1
70-74	-	-	-	-	2	-	3	1	1	2	5	5	6	5	30	<1
>74	-	1	-	-	-	1	2	-	2	1	5	5	4	9	30	<1
Total	136	746	2643	2532	1544	890	502	247	101	40	52	22	12	17	9484	100

TABLE 72
MARRIAGES BY MARITAL STATUS AND AGE OF GROOM
1989

GROOM'S PREVIOUS MARITAL STATUS	AGE OF GROOM															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
Widowed	-	-	2	5	9	20	28	33	55	45	70	84	55	42	448	2
Divorced	-	-	161	705	1272	1402	1287	874	494	236	144	66	23	10	6674	37
Annulled	-	-	-	5	8	12	8	2	-	1	-	-	-	-	36	<1
Never Married	20	341	3010	3842	2194	955	314	71	33	19	9	3	1	1	10813	60
Unknown	-	-	-	1	-	1	1	-	-	-	-	-	-	-	3	<1
Total	20	341	3173	4558	3483	2390	1638	980	582	301	223	153	79	53	17974	100
Percent	0	2	18	25	19	13	9	5	3	2	1	1	0	0	100	

TABLE 73
MARRIAGES BY MARITAL STATUS AND AGE OF BRIDE
1989

PREVIOUS MARITAL STATUS OF BRIDE	AGE OF BRIDE															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
Widowed	-	-	6	15	35	49	56	71	56	45	57	42	20	24	476	3
Divorced	-	9	363	1259	1633	1438	1028	582	226	81	70	25	6	7	6727	37
Annulled	-	1	3	18	16	8	4	3	1	1	-	-	1	-	56	<1
Never Married	146	869	3616	3653	1650	567	146	40	15	5	4	1	1	-	10713	60
Unknown	-	-	-	-	1	-	1	-	-	-	-	-	-	-	2	<1
Total	146	879	3988	4945	3335	2062	1235	696	298	132	131	68	28	31	17974	100
Percent	1	5	22	28	19	11	7	4	2	1	1	0	0	0	100	

TABLE 74
MARRIAGES BY ETHNICITY AND AGE OF GROOM
1989

ETHNICITY OF GROOMa/	AGE OF GROOM															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
Caucasian	6	117	1698	2620	2293	1739	1264	771	463	237	174	124	67	40	11613	65
Hawaiian	6	111	470	484	249	117	89	73	29	16	9	7	6	3	1669	9
Chinese	-	1	43	152	124	66	39	11	8	6	3	5	-	-	458	3
Filipino	6	57	374	380	182	84	59	25	26	11	17	5	4	5	1235	7
Japanese	-	12	148	514	389	237	104	48	36	16	13	9	2	5	1533	9
Korean	-	3	16	59	33	16	15	12	3	3	3	-	-	-	163	1
Samoan	-	14	67	59	13	16	10	3	4	-	-	-		-	186	1
Black	-	21	256	176	116	70	34	17	8	7	-	2	-	-	707	4
Vietnamese	-	1	9	13	10	2	2	-	-	-	1	-	-	-	38	<1
Other	1	3	83	84	51	26	12	10	3	2	3	1	-	-	279	2
Unknown	1	1	9	17	23	17	10	10	2	3	-	-	-	-	93	1
Total	20	341	3173	4558	3483	2390	1638	980	582	301	223	153	79	53	17974	100

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 75
MARRIAGES BY ETHNICITY AND AGE OF GROOM
GROOM IS A RESIDENT OF HAWAII
1989

ETHNICITY OF GROOMa/	AGE OF GROOM															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
Caucasian	6	99	1129	894	667	501	359	189	87	51	41	34	17	17	4091	42
Hawaiian	6	111	457	466	242	111	86	71	28	16	9	6	6	3	1618	17
Chinese	-	1	40	117	95	52	32	8	6	5	3	4	-	-	363	4
Filipino	6	54	364	344	166	77	57	23	25	11	14	5	3	5	1154	12
Japanese	-	12	133	460	334	209	86	44	30	15	11	7	2	5	1348	14
Korean	-	3	13	54	27	15	15	10	2	2	3	-	-	-	144	1
Samoan	-	13	62	55	12	16	9	3	4	-	-	-	-	-	174	2
Black	-	18	221	122	66	32	12	3	-	2	-	2	-	-	478	5
Vietnamese	-	1	9	10	7	1	2	-	-	-	1	-	-	-	31	<1
Other	1	2	74	65	43	19	8	9	3	1	2	1	-	-	228	2
Unknown	1	1	7	12	13	9	6	2	1	1	-	-	-	-	53	1
Total	20	315	2509	2599	1672	1042	672	362	186	104	84	59	28	30	9682	100

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 76
MARRIAGES BY ETHNICITY AND AGE OF BRIDE
1989

ETHNICITY OF BRIDEa/	AGE OF BRIDE															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
Caucasian	50	350	2013	2817	2185	1442	931	528	227	113	103	56	24	28	10867	60
Hawaiian	33	210	624	431	221	105	65	48	15	6	8	3	1	3	1773	10
Chinese	1	15	105	228	123	57	32	7	5	2	2	-	-	-	577	3
Filipino	39	151	528	420	186	122	67	38	23	2	6	3	2	-	1587	9
Japanese	8	51	344	699	400	177	64	29	14	3	7	6	1	-	1803	10
Korean	2	6	50	82	73	39	24	17	8	2	4	-	-	-	307	2
Samoan	3	29	68	38	16	9	3	1	-	1	-	-	-	-	168	1
Black	5	34	135	121	71	46	18	7	-	1	-	-	-	-	438	2
Vietnamese	2	5	15	12	9	14	4	1	-	1	-	-	-	-	63	<1
Other	3	25	98	69	33	39	19	12	4	-	-	-	-	-	302	2
Unknown	-	3	8	28	18	12	8	8	2	1	1	-	-	-	89	<1
Total	146	879	3988	4945	3335	2062	1235	696	298	132	131	68	28	31	17974	100

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 77
MARRIAGES BY ETHNICITY AND AGE OF BRIDE
BRIDE IS A RESIDENT OF HAWAII
1989

ETHNICITY OF BRIDEa/	AGE OF BRIDE															
	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Total	Per-cent
Caucasian	40	246	869	774	589	384	248	114	40	23	25	10	8	14	3384	36
Hawaiian	33	207	605	410	209	100	63	46	15	6	8	3	1	3	1709	18
Chinese	1	13	86	177	96	39	20	5	4	2	1	-	-	-	444	5
Filipino	39	146	496	364	168	105	60	35	20	2	6	3	2	-	1446	15
Japanese	8	49	294	569	330	155	54	19	10	3	7	6	1	-	1505	16
Korean	2	6	45	69	66	38	24	15	7	2	4	-	-	-	278	3
Samoan	3	27	66	37	16	8	3	1	-	1	-	-	-	-	162	2
Black	5	24	90	56	29	17	9	2	-	-	-	-	-	-	232	2
Vietnamese	2	3	12	10	8	10	4	1	-	1	-	-	-	-	51	1
Other	3	22	74	50	24	26	15	6	3	-	-	-	-	-	223	2
Unknown	-	3	6	16	9	8	2	3	2	-	1	-	-	-	50	1
Total	136	746	2643	2532	1544	890	502	247	101	40	52	22	12	17	9484	100

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 78
MARRIAGES BY ETHNICITY OF GROOM AND ETHNICITY OF BRIDE
1989

ETHNICITY OF GROOM	ETHNICITY OF BRIDE												
	Cauca-sian	Hawai-ian	Chi-nese	Filipino	Japa-nese	Korean	Samoan	Black	Viet.	Other	Un-known	Total	Percent
Caucasian	9643	423	186	508	473	113	24	79	25	135	4	11613	65
Hawaiian	376	785	46	206	183	17	21	7	2	25	1	1669	9
Chinese	79	40	194	22	106	8	-	2	2	5	-	458	3
Filipino	206	217	22	653	113	12	4	1	1	6	-	1235	7
Japanese	234	157	110	98	847	68	-	1	6	12	-	1533	9
Korean	24	12	8	7	27	83	-	-	-	2	-	163	1
Samoan	23	41	1	13	9	1	91	1	-	6	-	186	1
Black	185	57	5	49	26	3	20	343	-	18	1	707	4
Vietnamese	5	2	2	3	-	-	-	-	24	2	-	38	<1
Other	88	38	3	26	17	2	8	4	3	90	-	279	2
Unknown	4	1	-	2	2	-	-	-	-	1	83	93	1
Total	10867	1773	577	1587	1803	307	168	438	63	302	89	17974	100

TABLE 79
MARRIAGES BY ETHNICITY OF GROOM AND ETHNICITY OF BRIDE
GROOM IS A RESIDENT OF HAWAII
1989

ETHNICITY OF GROOMa/	ETHNICITY OF BRIDEa/												
	Caucasian	Hawaiian	Chinese	Filipino	Japanese	Korean	Samoan	Black	Viet.	Other	Unknown	Total	Percent
Caucasian	2596	372	123	422	318	87	19	41	22	89	2	4091	42
Hawaiian	345	780	45	202	178	17	21	5	1	23	1	1618	17
Chinese	48	38	145	20	96	8	-	2	2	4	-	363	4
Filipino	177	212	21	615	107	12	4	1	1	4	-	1154	12
Japanese	179	150	97	95	744	67	-	1	6	9	-	1348	14
Korean	14	12	5	7	26	78	-	-	-	2	-	144	1
Samoan	22	39	1	11	9	1	85	1	-	5	-	174	2
Black	119	48	4	43	20	2	20	205	-	17	-	478	5
Vietnamese	3	2	1	3	-	-	-	-	20	2	-	31	<1
Other	61	35	3	24	16	2	8	4	2	73	-	228	2
Unknown	1	1	-	2	1	-	-	-	-	1	47	53	1
Total	3565	1689	445	1444	1515	274	157	260	54	229	50	9682	100

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 80
MARRIAGES BY ETHNICITY OF GROOM AND ETHNICITY OF BRIDE
BRIDE IS A RESIDENT OF HAWAII
1989

ETHNICITY OF GROOMa/	ETHNICITY OF BRIDEa/												
	Caucasian	Hawaiian	Chinese	Filipino	Japanese	Korean	Samoan	Black	Viet.	Other	Unknown	Total	Percent
Caucasian	2443	385	124	421	319	89	23	42	20	82	2	3950	42
Hawaiian	337	779	45	202	176	17	20	5	1	23	1	1606	17
Chinese	44	38	147	20	95	8	-	2	2	5	-	361	4
Filipino	175	212	21	617	107	11	4	1	1	4	-	1153	12
Japanese	177	150	95	95	743	65	-	1	5	9	-	1340	14
Korean	14	12	4	7	25	82	-	-	-	2	-	146	2
Samoan	19	39	1	11	8	1	89	1	-	5	-	174	2
Black	112	54	3	43	18	3	19	176	-	14	-	442	5
Vietnamese	3	2	1	3	-	-	-	-	20	2	-	31	<1
Other	59	37	3	25	13	2	7	4	2	76	-	228	2
Unknown	1	1	-	2	1	-	-	-	-	1	47	53	1
Total	3384	1709	444	1446	1505	278	162	232	51	223	50	9484	100

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 81
ETHNIC OUTMARRIAGES BY ETHNICITY
1989

ETHNICITYa/	RESIDENT GROOM			RESIDENT BRIDE		
	Out Marriage	In Marriage	Total	Out Marriage	In Marriage	Total
Caucasian	1495	2596	4091	941	2443	3384
Hawaiian	838	780	1618	930	779	1709
Chinese	218	145	363	297	147	444
Filipino	539	615	1154	829	617	1446
Japanese	604	744	1348	762	743	1505
Korean	66	78	144	196	82	278
Samoan	89	85	174	73	89	162
Black	273	205	478	56	176	232
Vietnamese	11	20	31	31	20	51
Other	155	73	228	147	76	223
Unknown	6	47	53	3	47	50
Total	4294	5388	9682	4265	5219	9484

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 82
MARRIAGES OF FOREIGN CITIZENS
1989

ETHNICITYa/	FOREIGN GROOM		FOREIGN BRIDE	
	Number	Percent	Number	Percent
Caucasian	970	86	904	80
Hawaiian	5	0	1	0
Chinese	35	3	37	3
Filipino	14	1	30	3
Japanese	48	4	104	9
Korean	5	0	7	1
Samoan	3	0	3	0
Black	26	2	10	1
Other	21	2	31	3
Unknown	5	0	5	0
Total	1132	100	1132	100

Note: a/ Caucasian includes Puerto Rican and Portuguese. Hawaiian includes Part-Hawaiian.

TABLE 83
DIVORCES AND ANNULMENTS BY COUNTY AND MONTH OF OCCURRENCE
1989

COUNTY OF MARRIAGE	MONTH														
	Total	Per-cent	Rate	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hawaii	534	9.5	4.4	44	31	47	39	46	53	37	75	26	41	56	39
Honolulu	4406	78.5	5.2	324	282	367	314	433	371	350	551	265	370	409	370
Kauai	253	4.5	5.0	18	23	16	34	23	18	20	21	18	24	18	20
Maui	420	7.5	4.3	29	26	39	42	37	32	38	29	38	46	24	40
Total	5613	100.0	5.0	415	362	469	429	539	474	445	676	347	481	507	469
Percent	100			7.4	6.4	8.4	7.6	9.6	8.4	7.9	12.0	6.2	8.6	9.0	8.4

TABLE 84
DIVORCES AND ANNULMENTS BY COUNTY AND MONTH OF OCCURRENCE
1989

RESIDENCE OF HUSBAND	RESIDENCE OF WIFE													
		Hawaii County			Honolulu County			Kauai Cnty	Maui County					Non
	Total	Tot.	Hilo	Rest	Tot.	Hon.	Rest	Tot.	Tot.	Maui	Lanai	Molo.	Unk.	Resi-dent
County of Hawaii	471	377	111	266	45	18	27	5	5	5	-	-	3	36
City of Hilo	133	110	81	29	12	3	9	1	1	1	-	-	1	8
Balance of County	338	267	30	237	33	15	18	4	4	4	-	-	2	28
Honolulu County	3850	40	7	33	3190	1422	1768	17	33	29	-	4	22	548
Honolulu District	1639	17	6	11	1383	1000	383	8	18	15	-	3	9	204
Balance of County	2211	23	1	22	1807	422	1385	9	15	14	-	1	13	344
County of Kauai	229	5	1	4	20	7	13	176	2	1	-	1	1	25
County of Maui	367	8	4	4	25	17	8	2	285	280	1	4	3	44
Island of Maui	354	6	4	2	22	15	7	2	279	279	-	-	3	42
Island of Lanai	3	2	-	2	-	-	-	-	1	-	1	-	-	-
Island of Molokai	10	-	-	-	3	2	1	-	5	1	-	4	-	2
Unknown	49	2	-	2	30	17	13	4	13	12	-	1	-	-
Nonresident	647	57	12	45	528	255	273	17	39	36	2	1	-	6
Total	5613	489	135	354	3838	1736	2102	221	377	363	3	11	29	659

TABLE 85
DIVORCES AND ANNULMENTS BY AGE OF HUSBAND AND AGE OF WIFE
1989

AGE OF HUSBAND	AGE OF WIFE															
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Unk.	Total	Per-cent
Under 20	5	8	2	-	-	-	-	-	-	-	-	-	-	-	15	<1
20 - 24	33	347	83	17	7	6	1	-	-	-	-	-	-	5	499	9
25 - 29	5	268	614	127	48	14	2	-	-	-	-	-	-	9	1087	19
30 - 34	1	60	394	526	129	33	11	2	-	-	-	-	-	9	1165	21
35 - 39	-	12	109	354	381	100	25	8	1	-	-	-	-	7	997	18
40 - 44	-	11	47	120	277	277	40	5	1	-	-	-	1	5	784	14
45 - 49	-	5	19	49	84	144	127	16	6	-	1	-	-	4	455	8
50 - 54	-	1	4	12	27	53	69	56	17	2	1	-	-	1	243	4
55 - 59	-	-	2	9	13	20	27	40	24	8	1	-	-	3	147	3
60 - 64	-	1	3	4	1	4	18	15	16	15	4	1	-	3	85	2
65 - 69	-	-	5	1	1	2	4	3	7	9	10	2	-	2	46	1
70 - 74	-	-	-	2	1	1	-	1	-	1	7	-	1	-	14	<1
75 & Over	-	-	2	3	3	1	2	2	2	2	5	3	3	1	29	1
Unknown	1	6	10	13	9	4	1	-	1	-	-	1	-	1	47	1
Total	45	719	1294	1237	981	659	327	148	75	37	29	7	5	50	5613	100
Percent	1	13	23	22	17	12	6	3	1	1	1	<1	<1	1	100	

TABLE 86
DIVORCES AND ANNULMENTS BY ETHNICITY OF HUSBAND AND ETHNICITY OF WIFE
1989

ETHNICITY OF HUSBAND	ETHNICITY OF WIFE														
	Caucasian	Hawaiian	Pt. Hawaiian	Chinese	Filipino	Japanese	Puerto Rican	Korean	Samoan	Black	Portuguese	Viet.	Other	Unk.	Total
Caucasian	1913	11	119	45	174	162	7	97	8	19	14	10	38	1	2618
Hawaiian	28	25	18	-	10	6	2	-	-	-	4	-	2	-	95
Part Hawaiian	139	12	247	25	79	60	4	9	6	-	12	2	11	2	608
Chinese	42	1	20	72	12	40	-	10	-	-	4	3	-	-	204
Filipino	88	6	70	11	375	42	4	6	-	1	14	-	7	1	625
Japanese	96	8	55	30	51	418	3	40	-	1	5	2	3	-	712
Puerto Rican	16	1	11	1	7	2	11	2	-	1	5	-	3	-	60
Korean	8	-	6	4	3	8	-	66	-	-	-	2	-	-	97
Samoan	14	3	7	-	1	1	1	-	19	-	2	-	1	-	49
Negro	66	3	14	-	16	15	3	3	2	199	-	-	7	1	329
Portuguese	10	2	20	1	14	9	-	1	-	-	19	-	3	-	79
Vietnamese	-	-	-	1	2	-	-	1	-	-	-	11	-	-	15
Other Races	39	1	14	5	12	6	1	1	2	2	3	-	25	-	111
Unknown	3	-	-	-	1	2	-	1	-	-	-	-	-	4	11
Total	2462	73	601	195	757	771	36	237	37	223	82	30	100	9	5613

TABLE 87
DIVORCES AND ANNULMENTS BY LEGAL GROUNDS AND DURATION OF MARRIAGE
1989

LEGAL GROUNDS	DURATION OF MARRIAGE IN YEARS															
	Under 1	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	>39	Unk.	Total	Percent
Absolute Divorces a/	180	444	523	543	491	1770	788	487	272	93	-	-	-	9	5600	100
Marr.Irretr.Broken	179	442	522	543	491	1756	782	486	268	93	-	-	-	9	5571	99
Separation	1	1	1	-	-	13	6	1	4	-	-	-	-	-	27	<1
Griev.Mental Suff.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	<1
Unknown	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	<1
Annulments	3	4	1	1	2	2	-	-	-	-	-	-	-	-	13	<1
Minor	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	<1
Undiv.Spouse Alive	2	2	-	1	1	1	-	-	-	-	-	-	-	-	7	<1
Did Not Cohabit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Failure to Provide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phys. Incompatible	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fraud	1	1	-	-	-	1	-	-	-	-	-	-	-	-	3	<1
Other	-	-	1	-	1	-	-	-	-	-	-	-	-	-	2	<1
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	183	448	524	544	493	1772	788	487	272	93	-	-	-	9	5613	100
Percent	3	8	9	10	9	32	14	9	5	2	-	-	-	<1	100	

Note: a/ Includes Type of Decree Unspecified.

TABLE 88
DIVORCES AND ANNULMENTS BY EDUCATION OF HUSBAND AND WIFE
1989

EDUCATION OF HUSBAND		EDUCATION OF WIFE													
		Grade School								College					
		None	1-4	5-6	7-8	9	10	11	12	1-3	4	>4	Unk.	Total	Percent
None		-	-	1	-	-	1	-	-	1	-	-	2	5	<1
Grade School:	1 - 4	1	3	3	-	1	1	3	5	5	-	1	4	27	<1
	5 - 6	-	3	8	2	1	3	2	18	2	3	-	1	43	1
	7 - 8	-	-	2	5	1	6	2	22	10	3	1	2	54	1
	9	-	1	-	4	8	5	6	33	12	1	-	2	72	1
	10	1	3	3	3	6	18	9	69	23	8	2	1	146	3
	11	-	1	-	1	7	15	25	89	27	5	2	5	177	3
	12	3	5	23	26	52	71	81	1673	449	127	48	44	2602	46
College:	1 - 3	1	1	6	17	11	17	25	444	496	130	57	21	1226	22
	4	-	1	3	3	4	4	4	179	192	226	60	12	688	12
	>4	1	-	-	1	-	1	5	51	120	102	115	1	397	7
Unknown		1	-	1	6	5	6	11	83	39	12	3	9	176	3
Total		8	18	50	68	96	148	173	2666	1376	617	289	104	5613	100
Percent		<1	<1	1	1	2	3	3	47	25	11	5	2	100	

TABLE 89
DIVORCES AND ANNULMENTS BY ETHNICITY AND AGE OF HUSBAND
1989

ETHNICITY OF HUSBAND	AGE OF HUSBAND															
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Unk.	Total	Per-cent
Caucasian	7	290	518	505	449	376	209	103	68	44	19	3	4	23	2618	47
Hawaiian	-	4	21	20	20	14	6	6	2	1	1	-	-	-	95	2
Part Hawaiian	2	45	137	121	111	83	53	31	12	8	2	1	1	1	608	11
Chinese	-	5	29	50	34	34	17	15	8	4	3	2	1	2	204	4
Filipino	4	44	121	133	106	72	53	26	17	9	10	1	19	10	625	11
Japanese	-	14	86	150	162	126	78	44	22	13	9	5	2	1	712	13
Puerto Rican	-	3	15	15	11	6	7	-	3	-	-	-	-	-	60	1
Korean	-	3	10	16	18	21	11	9	3	2	2	-	1	1	97	2
Samoan	-	4	8	14	11	9	-	1	-	1	-	-	1	-	49	1
Negro	1	63	102	86	37	17	6	4	5	2	-	1	-	5	329	6
Portuguese	-	6	14	18	12	11	10	3	4	1	-	-	-	-	79	1
Vietnamese	-	-	2	5	6	1	1	-	-	-	-	-	-	-	15	<1
Other Races	1	17	22	30	16	13	3	1	3	-	-	1	-	4	111	2
Unknown	-	1	2	2	4	1	1	-	-	-	-	-	-	-	11	<1
Total	15	499	1087	1165	997	784	455	243	147	85	46	14	29	47	5613	100
Percent	<1	9	19	21	18	14	8	4	3	2	1	<1	1	1	100	

TABLE 90
DIVORCES AND ANNULMENTS BY ETHNICITY AND AGE OF WIFE
1989

ETHNICITY OF WIFE	AGE OF WIFE															
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>74	Unk.	Total	Per-cent
Caucasian	29	386	545	503	431	272	155	62	30	23	9	1	2	14	2462	44
Hawaiian	-	6	19	18	14	10	3	2	1	-	-	-	-	-	73	1
Part Hawaiian	2	69	175	144	100	48	33	14	8	2	4	1	-	1	601	11
Chinese	1	7	34	47	38	39	17	5	2	2	2	-	1	-	195	3
Filipino	6	86	212	161	111	94	40	14	10	3	5	2	2	11	757	13
Japanese	2	59	119	192	151	135	43	30	17	6	8	2	-	7	771	14
Puerto Rican	1	8	11	5	5	-	1	3	-	-	-	-	-	2	36	1
Korean	-	14	51	64	51	26	15	6	5	-	1	1	-	3	237	4
Samoan	-	5	7	5	10	4	2	1	-	-	-	-	-	3	37	1
Negro	2	53	77	48	22	9	5	2	-	1	-	-	-	4	223	4
Portuguese	1	7	18	20	17	9	7	1	2	-	-	-	-	-	82	1
Vietnamese	-	5	5	6	8	4	1	1	-	-	-	-	-	-	30	1
Other Races	1	13	20	22	22	8	3	7	-	-	-	-	-	4	100	2
Unknown	-	1	1	2	1	1	2	-	-	-	-	-	-	1	9	<1
Total	45	719	1294	1237	981	659	327	148	75	37	29	7	5	50	5613	100
Percent	1	13	23	22	17	12	6	3	1	1	1	<1	<1	1	100	

TABLE 91
DIVORCES AND ANNULMENTS BY NUMBER OF CHILDREN UNDER 18 YEARS
1989

TYPE OF DECREE	CHILDREN UNDER 18 YEARS													
	None	1	2	3	4	5	6	7	8	9	>9	Unk.	Total	Per-cent
Divorces	2493	1407	1171	361	126	22	6	5	-	1	2	6	5600	100
Annulments	9	1	3	-	-	-	-	-	-	-	-	-	13	<1
Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	2502	1408	1174	361	126	22	6	5	-	1	2	6	5613	100
Percent	45	25	21	6	2	<1	<1	<1	-	<1	<1	<1	100	

GENERAL NOTES ON TABLES IN THE VITAL STATISTICS SECTION

Geographic Area:

The City and County of Honolulu is abbreviated as Honolulu County or Hon. County.

Population:

At the time the rates based on population were computed for this report, the population figures available were the ones presented in Table 1. Since that time, revised population figures for the counties have become available and are presented below.

RESIDENT POPULATION
1989-1990

County	Revised 1989	April 1, 1990	July 1, 1990
Hawaii	116,600	120,317	121,000
City & County of Honolulu	834,900	836,231	838,100
Kauai	49,700	51,177	51,500
Maui a/	96,600	100,504	101,200
Total	1,097,800	1,108,229	1,111,800

Note: a/ Includes Kalawao County (Kalaupapa Settlement).
Source: Department of Business, Economic Development and Tourism.

Ethnicity:

Caucasian, as reported in the tables in the vital statistics section, excludes Portuguese. There is a separate category for people of Portuguese ancestry, except for marriages, where they are combined with Caucasian.

In the section on marriages, the category "Hawaiian" also includes "Part-Hawaiian".

It should be noted that only one ethnicity is coded from the actual certificates. If more than one ethnicity is listed on the certificate, the following rules apply:

1. If Hawaiian is one of the multiple ethnicities listed, Part-Hawaiian is coded.
2. If a non-caucasian ethnicity is listed with a caucasian ethnicity, the non-caucasian ethnicity is coded.
3. If there is more than one non-caucasian ethnicity listed, the first one is coded.
4. If there is more than one caucasian ethnicity listed, the first one is coded.

Cause of Death:

The cause of death, as presented in the vital statistics section, is the underlying cause of death. All death certificates are coded according to rules developed by the National Center of Health Statistics using the International Classification of Diseases - 9th Edition. The rules are set to assist the coder in identifying the contributing as well as the underlying cause of death. The underlying cause may not be the immediate cause of death.

Symbols:

Whenever a table has many zero (0) entries, the symbol "-" is used instead of the "0". The symbol "-" is also used when an entry is not applicable.

ICD-9 CODES FOR TABLES ON LEADING CAUSES OF DEATH

DISEASES:	CODES:
Diseases of the Heart	390-398,402,404-429
Malignant Neoplasms	140-208
Cerebrovascular Diseases	430-438
Motor Vehicle Accidents	810-825
All Other Accidents	800-807,826-949
Chronic Obstructive Pulmonary Diseases	490-496
Influenza/Pneumonia	480-487
Diabetes Mellitus	250
Suicide	950-959
Chronic Liver Disease and Cirrhosis	571
Atherosclerosis	440
Nephritis, Nephrotic Syndrome, and Nephrosis	580-589
Homicide and Legal Intervention	960-978
Septicemia	038
Perinatal Conditions	760-779
HIV Infection	042-044
All Other Causes	All Other Codes

ICD-9 CODES FOR TABLES ON RESIDENT DEATH

DISEASES:	CODES:
Infective and Parasitic Diseases	
Tuberculosis	010-018
HIV Infection	042-044
Other Infective and Parasitic Diseases	001-009,020-041,045-089,090-136,138-139
Malignant Neoplasms	
Of the Digestive Organs	150-159
Of the Respiratory System	160-165
Of the Breast	174-175
Of the Genital Organs	179-187
Of the Urinary Organs	188-189
Leukemia	204-208
Other Malignant Neoplasms	140-149,166-173,176-178,190-203
Diabetes Mellitus	250
Diseases of the Circulatory System	
Diseases of the Heart	
Rheumatic Fever and Chronic Rheumatic Heart Disease	390-398
Hypertensive Heart Disease	402,404
Ischemic Heart Disease	410-414
Other Forms of Heart Disease	415-417,420-429
Hypertension	401,403
Cerebrovascular Diseases	430-438
Atherosclerosis	440
Other Circulatory Diseases	441-459
Respiratory Diseases	
Influenza/Pneumonia	480-487
Chronic Obstructive Pulmonary Diseases	490-496
Other Respiratory Diseases	500-519,460-478
Peptic Ulcer	531-533
Cirrhosis of the Liver	571
Nephritis, Nephrotic Syndrome, and Nephrosis	580-589
Complications of Pregnancy, Childbirth, and the Puerperium	630-676
Congenital Anomalies	740-759
Perinatal Conditions	760-779
Symptoms and Ill-Defined Conditions	780-799
All Other Diseases	137,210-246,251-389,405,460-478,500-530,534-570,572-579,590-629,680-739

VITAL STATISTICS - GENERAL NOTES

ICD-9 CODES FOR TABLES ON RESIDENT DEATH (continued)

EXTERNAL CAUSES:	CODES:
Accidents	
Motor Vehicle	810-825
Other Means of Transport	800-807,826-848
Poisoning	850-869
Falls	880-888
Fires	890-899
Drowning and Submersion	910
Firearm Missile	922
Adverse Effects	930-949
Other Types of Accidents	900-909,911-921,923-929
Suicide	950-959
Homicide and Legal Intervention	960-978
All Other External Causes	All Other Codes

ICD-9 CODES FOR TABLES ON DEATHS DUE TO MALIGNANT NEOPLASM

TYPE OF NEOPLASM:	CODES:
Lip, Oral Cavity, and Pharynx	
Lip	140
Tongue	141
Major Salivary Glands	142
Gum	143
Floor of Mouth	144
Other and Unspecified Parts of the Mouth	145
Oropharynx	146
Nasopharynx	147
Hypopharynx	148
Other and Ill-Defined Sites Within the Lip, Oral Cavity, and Pharynx	149
Digestive Organs and Peritoneum	
Oesophagus	150
Stomach	151
Small Intestine, Including Duodenum	152
Colon	153
Rectum, Rectosigmoid Junction, and Anus	154
Liver and Intrahepatic Bile Ducts	155
Gallbladder and Extrahepatic Bile Ducts	156
Pancreas	157
Retroperitoneum and Peritoneum	158
Other and Ill-Defined Sites Within the Digestive Organs and Peritoneum	159
Respiratory and Intrathoracic Organs	
Nasal Cavities, Middle Ear, and Accessory Sinuses	160
Larynx	161
Trachea, Bronchus, and Lung	162
Pleura, Thymus, Heart, Mediastinum, and Other and Ill-Defined Sites Within the Respiratory System and Intrathoracic Organs	163-165
Bone, Connective Tissue, Skin, and Breast	
Bone and Articular Cartilage	170
Connective and Other Soft Tissue	171
Melanoma of Skin	172
Neoplasm of Skin	173
Breast	174-175
Genitourinary Organs	
Cervix Uteri	180
Placenta	181

ICD-9 CODES FOR TABLES ON DEATHS DUE TO MALIGNANT NEOPLASM (continued)

TYPE OF NEOPLASM:	CODES:
Other Parts of the Uterus	179,182
Ovary and Other Uterine Adnexa	183
Other and Unspecified Female Genital Organs	184
Prostate	185
Testis	186
Penis and Other Male Genital Organs	187
Bladder	188
Kidney and Other and Unspecified Urinary Organs	189
Other and Unspecified Sites	
Eye	190
Brain	191
Other and Unspecified Parts of Nervous System	192
Thyroid Gland	193
Other Endocrine Glands and Related Structures	194
Other and Ill-Defined Sites	195
Lymph Nodes (Secondary and Unspecified)	196
Respiratory and Digestive Systems (Secondary)	197
Other Specified Sites (Secondary)	198
Without Specification of Site	199
Lymphatic and Haematopoietic Tissue	
Lymphosarcoma and Reticulosarcoma	200
Hodgkin's Disease	201
Other, of Lymphoid and Hystiocytic Tissue	202
Multiple Myeloma and Immunoproliferative Neoplasms	203
Lymphoid Leukaemia	204
Myeloid Leukaemia	205
Monocytic Leukaemia	206
Other Specified and Unspecified Leukaemia	207-208

Note: Some of the terms used in this report to define diseases and external causes of death may be spelled archaically. However, they were taken directly from Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, World Health Organization, Geneva, 1977.

HAWAII TUMOR REGISTRY

SUMMARY

The total number of resident cancer cases reported in Hawai'i in 1988 (the most recent year of complete registration) was 4,036. This represented a 9.6 percent increase over the 3,682 cases reported in 1987. The 2,077 new male cases represented an increase of 231 cases, or 12.5 percent, above the total cases registered in the previous year. The 1,959 new female cases represented an increase of 123, or 6.7 percent, over the total of the previous year.

The sites of the three most common cancers among resident males in 1988 were prostate (386), lung (335), and colon (256). Among the females, the sites of the three most common cancers in 1987 were breast (629), uterus-corpus and cervix combined (249) and colon (182).

The lung cancer cases for both sexes combined climbed upward from 1985 to 1987 totaling 401 in 1985, 452 in 1986, and 498 in 1987. In 1988 however, the total number of lung cancer cases dropped slightly to 490.

Prostate cancer was most common among males of Caucasian and Filipino ancestries while lung cancer was most often seen among the Hawaiian males. Colon cancer was the most frequent site for Japanese males.

Cancer of the breast was the leading site for females of all race categories. The Caucasian and Japanese women led other race groups with 220 cases and 204 cases respectively.

The median age at diagnosis for resident males in 1988 was 68 years as compared to 69 years for 1987. The median age at diagnosis for resident females in 1988, 62 years, was the same as it was in 1987.

FIGURE 1
LUNG CANCER CASES AND DEATHS
1980-1988

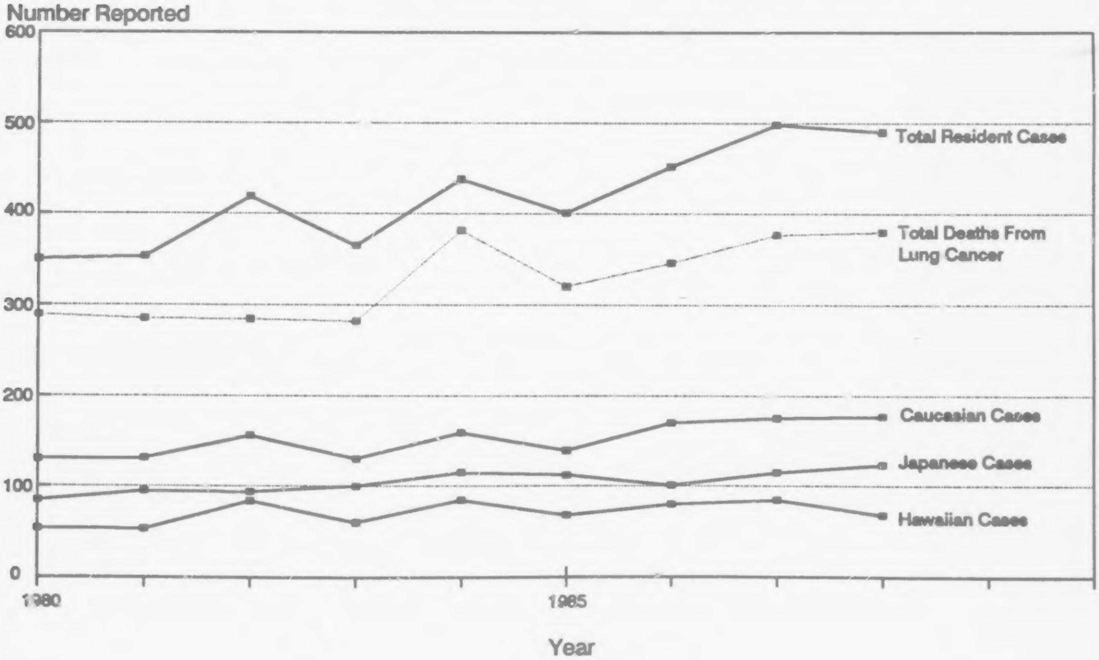


TABLE 1
COMMON CANCERS REPORTED BY SITE AND ETHNICITY
MALE RESIDENTS
STATE OF HAWAII, 1988

SITE	ETHNICITY							
	Caucasian	Chinese	Japanese	Filipino	Hawaiian/ Pt-Hawaiian	Samoan/ Pt-Samoan	Other	TOTAL
Stomach (151)	13	5	79	6	8	0	8	119
Colon (153)	67	17	108	25	16	0	23	256
Rectum (154)	26	12	45	19	4	2	8	116
Lung (162)	109	18	94	39	39	9	27	335
Hematopoietic (169)	39	3	11	11	8	3	13	88
Skin (173)	68	3	6	2	3	0	13	95
Prostate (185)	157	27	86	62	26	2	26	386
Bladder (188)	45	5	20	5	2	0	5	82
Other Sites	209	36	123	82	75	6	69	600
Total	733	126	572	251	181	22	192	2077

TABLE 2
COMMON CANCERS REPORTED BY SITE AND ETHNICITY
FEMALE RESIDENTS
STATE OF HAWAII, 1988

SITE	ETHNICITY							
	Caucasian	Chinese	Japanese	Filipino	Hawaiian/ Pt-Hawaiian	Samoan/ Pt-Samoan	Other	TOTAL
Stomach (151)	10	5	43	7	7	2	7	81
Colon (153)	45	16	83	13	13	0	12	182
Rectum (154)	17	4	20	7	8	0	4	60
Lung (162)	68	8	29	10	29	0	11	155
Breast (174)	220	32	204	47	78	2	46	629
Cervix (180)	40	5	26	19	20	0	25	135
Uterus (179, 182)	25	11	38	12	11	2	15	114
Ovary (183)	29	4	24	4	9	1	9	80
Thyroid (193)	12	7	13	18	8	1	15	74
Other Sites	175	24	101	42	47	9	51	449
TOTAL	641	116	581	179	230	17	195	1959

TABLE 3
TUMOR REGISTRATIONS AGE AT DIAGNOSIS BY ETHNICITY
MALE RESIDENTS
STATE OF HAWAII, 1988

AGE	ETHNICITY							
	Caucasian	Chinese	Japanese	Filipino	Hawaiian/ Pt-Hawaiian	Samoan/ Pt-Samoan	Other	TOTAL
< 1 Year	0	0	0	0	0	0	1	1
1 - 4 Years	2	0	0	1	3	1	3	10
5 - 14 Years	2	0	0	3	1	2	5	13
15 - 24 Years	12	0	2	4	9	1	12	40
25 - 34 Years	30	0	2	6	4	1	10	53
35 - 44 Years	44	4	16	17	9	2	19	111
45 - 54 Years	61	6	25	18	29	3	24	166
55 - 64 Years	170	19	117	34	43	7	29	419
65 - 74 Years	247	56	239	52	61	4	47	706
75+ Years	165	41	171	116	22	1	42	558
TOTAL	733	126	572	251	181	22	192	2077

TABLE 4
TUMOR REGISTRATIONS AGE AT DIAGNOSIS BY ETHNICITY
FEMALE RESIDENTS
STATE OF HAWAII, 1988

AGE	ETHNICITY-							
	Caucasian	Chinese	Japanese	Filipino	Hawaiian/ Pt-Hawaiian	Samoan/ Pt-Samoan	Other	TOTAL
< 1 Year	0	0	0	0	0	0	1	1
1 - 4 Years	3	0	0	1	2	0	0	6
5 - 14 Years	2	0	0	0	1	1	3	7
15 - 24 Years	8	0	1	4	6	1	4	24
25 - 34 Years	35	6	20	14	13	0	17	105
35 - 44 Years	83	13	39	33	30	3	32	233
45 - 54 Years	105	11	88	37	53	3	40	337
55 - 64 Years	98	29	136	49	59	5	48	424
65 - 74 Years	176	24	170	26	41	3	32	472
75+ Years	131	33	127	15	24	1	18	349
TOTAL	641	116	581	179	230	17	195	1959

EMERGENCY MEDICAL SERVICES SYSTEM BRANCH - SUMMARY

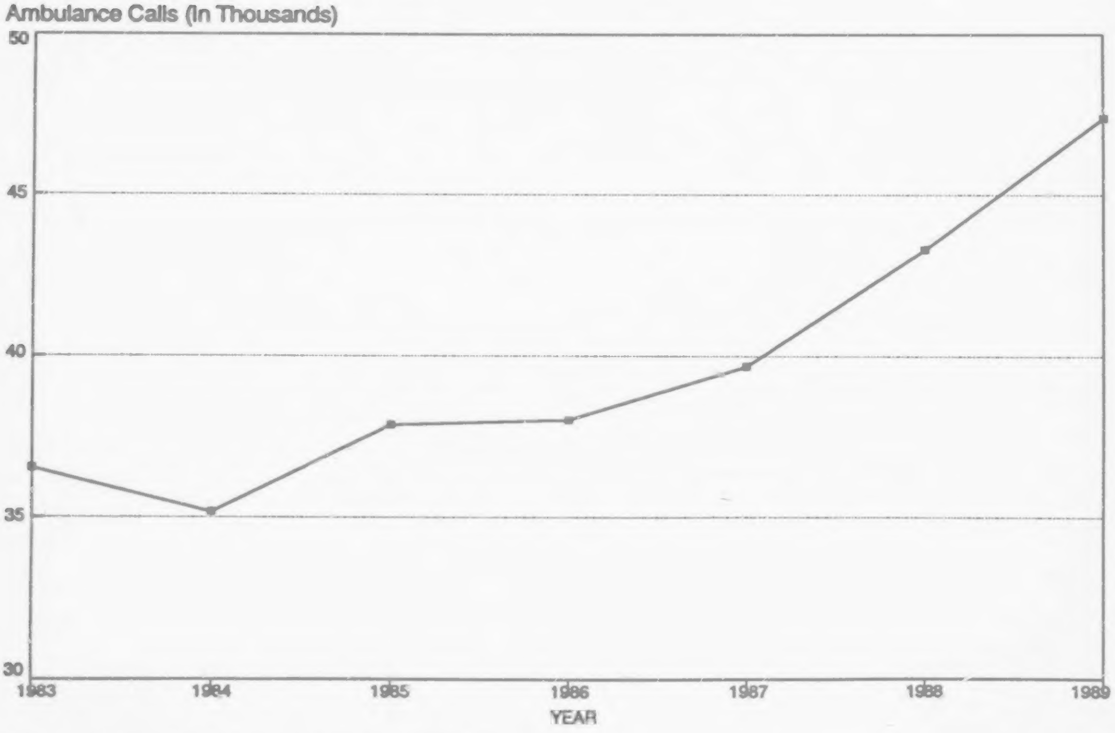
The Emergency Medical Services System Branch (EMSS) is responsible for the administration and coordination of the State's comprehensive emergency medical services system through a cohesive network of components that are designed to reduce morbidity and mortality by assuring the availability and accessibility of the best possible prehospital emergency medical services statewide.

Prehospital emergency ambulance services are provided on each of the six major islands. State standards require that 95% of all calls be responded to within an average of twenty (20) minutes. All calls are responded to by trained Emergency Medical Technicians (EMT(s)), Mobile Intensive Care Technicians (MICT(s)), and when necessary, public safety personnel (county and state fire, police, and lifeguards). All personnel are trained through the Community Colleges on O'ahu, Maui, Kaua'i, and Hawai'i.

Emergency medical resources are linked by the statewide MEDICOM communication system which provides for voice communication between ambulance personnel and hospitals. This communication system is essential so physicians can provide medical direction in the delivery of prehospital emergency medical care.

Table 1 shows the number of emergency ambulance units located on each island and the level of service provided while Table 2 shows the volume of calls responded to on each island for the past three years and the overall island response times.

FIGURE 1
VOLUME OF EMERGENCY AMBULANCE CALLS
1983-1989a/



Note: a/ Contains preliminary data based on manual counts.

EMERGENCY MEDICAL SERVICES SYSTEM BRANCH

TABLE 1
EMERGENCY AMBULANCE UNITS/LEVEL OF SERVICES BY ISLANDS
STATE OF HAWAII, FISCAL YEAR 1989 - 1990

ISLAND	Level of BLS a/	Service ALS b/	TOTAL
Oahu	-	15	15
Hawaii	2	7	9
Kauai	–	3	3
Maui	1	5	6
Molokai	–	1	1
Lanai	–	1	1
TOTAL	3	32	35

Notes: a/ BLS= Basic Life Support
b/ ALS= Advanced Life Support

TABLE 2
VOLUME OF EMERGENCY AMBULANCE CALLS AND THE OVERALL AVERAGE RESPONSE TIME BY ISLAND
STATE OF HAWAII, CALENDAR YEARS 1987, 1988, 1989

	YEAR					
	1987		1988		1989	
ISLAND	Volume	Response	Volume	Response	Volume	Response
Oahu	26,947	9 min.	30,636	10 min.	32,518	10 min.
Hawaii	6,175	14 min.	5,847	16 min.	7,210	13 min.
Kauai	1,882	14 min.	2,122	15 min.	2,272	13 min.
Maui	4,221	12 min.	4,319	11 min.	4,803	10 min.
Molokai	386	9 min.	309	10 min.	474	11 min.
Lanai	62	16 min.	79	14 min.	85	12 min.
TOTAL	39,673	-	43,312	-	47,362	-

Note: a/ Contains preliminary data based on manual counts.

HOSPITAL AND MEDICAL FACILITIES BRANCH - SUMMARY

The Hospital and Medical Facilities Branch focuses on assuring the appropriateness and quality of care given to clients in medical or health care related facilities. To do this, the Branch develops rules and regulations governing their structures and functions, ranging from the governing body to patients' rights to actual care given, these rules being authorized by the Legislature and passing through public hearing before adoption.

The Branch serves as the arm for State licensing of all health care facilities as well as for certification of the facilities for participation in Federal Medicare and Medicaid programs. It receives, investigates and takes appropriate action with respect to charges or complaints of failure of facilities or agencies to comply with State and Federal rules or standards.

To enforce both State and Federal rules, the Branch conducts licensing and follow-up surveys and complaint investigations using especially trained multidisciplinary teams of specialist surveyors.

Facilities which are required to undergo both the licensing and certification processes fall under the Medicare section of the Branch and include, in the order of intensity of care, necessary acute care hospitals, skilled nursing facilities, intermediate care facilities, independent laboratories, and community-based facilities such as intermediate care facilities for the mentally retarded, end-stage renal dialysis centers, various rehabilitation services, home health services, freestanding surgical outpatient facilities, hospice, and adult day health care facilities.

An equally important Licensing Section of the Branch surveys and issues State licenses only for facilities and services unique to Hawaii such as adult residential care homes for frail and dependent persons and special treatment facilities which provide care primarily for alcohol and drug abuse.

Complaints regarding care or any other violations by licensed or certified facilities are promptly investigated by the Branch in cooperation with the Ombudsman's Office, Executive Office on Aging, Department of Human Services, and Protection and Advocacy Agency. At least one "hot line" to receive such complaints will be established in 1989.

Tables showing the number of facilities and beds under each category for the State and each island are given in this section along with a comparison with 1987 to reflect growth and changes in the health care delivery system.

For the lists of bed capacities and other factors such as census and lengths of stay of various institutions reflecting acute care, long-term care and specialty care hospitals or facilities in all Counties, please refer to the report of the State Health Planning and Development Agency.

The trend toward converting institutional care to community-based care is reflected in the following tables as intermediate care facilities for the mentally retarded continue to expand. There is some indication saturation levels may be appearing as community placement becomes more difficult. A reduction in care homes primarily reflects withdrawal of amalgamated boarding homes which could not qualify for licensure by a 1988 deadline. It is not reflective of a trend.

The backup of long-term care level persons into acute care facilities is reflected in the State Health Planning Development Agency report. This situation is putting pressure on community placement facilities, Adult Residential Care Homes particularly, to accept more heavily involved clients, and upon nursing homes which are also near saturation in occupancy. As a result, new categories of care, such as "sub-acute" care, and "case mix" reimbursement systems are being considered.

It is anticipated that congressionally ordered changes in the entire system of health care delivery, particularly long-term care, through the Omnibus Budget Reconciliation Act of 1987 (OBRA '87) will drastically change the system. The Branch is heavily involved in implementing OBRA's various conditions which become effective at intervals ranging from January 1, 1989, to October 1990 and 1992. It is predicted that Federal survey activities will increase by 50% as a result of these changes. Whether such changes will result in better care is debatable.

HOSPITAL AND MEDICAL FACILITIES BRANCH

TABLE 1
CHANGES IN TYPES AND NUMBER OF FACILITIES BY ISLAND
STATE OF HAWAII, 1987-1989

	ISLAND											
	State Total			Oahu			Hawaii			Kauai		
Type of Facility	1987	1989	% Change	1987	1989	% Change	1987	1989	% Change	1987	1989	% Change
Hospitals	27	28	+ 4	15	16	+ 7	5	5	-	3	3	-
Skilled Nursing Intermediate Care	37	42	+ 14	22	26	+ 18	6	6	-	4	5	+ 25
Intermediate Care Facilities/MR	18	18	-	17	16	- 6	-	-	-	0	1	+ 100
Special Treatment Facilities	14	17	+ 21	10	13	+ 30	1	1	-	1	1	-
Independent Laboratories	29	35	+ 21	22	27	+ 23	3	5	+ 67	0	1	+ 100
Home Health Agencies	17	19	+ 12	9	11	+ 22	4	4	-	1	1	-
End-Stage Renal Disease	10	12	+ 20	6	7	+ 17	2	2	-	1	1	-
Adult Residential Care Homes	574	518	- 10	450	410	- 9	60	53	- 12	36	28	- 22
Independent Rehabilitation Facilities	3	3	-	1	1	-	2	2	-	-	-	-
Freestanding Outpatient Surgical Facilities	7	8	+ 14	6	6	-	-	-	-	-	1	+ 100
Adult Day Health Centers	4	4	-	3	3	-	1	1	-	-	-	-
Hospice	3	4	+ 33	2	2	-	-	1	+ 100	1	1	-

TABLE 1 (Continued)
CHANGES IN TYPES AND NUMBER OF FACILITIES BY ISLAND
STATE OF HAWAII, 1987 - 1989

	ISLAND								
	Lanai			Maui			Molokai		
TYPE OF FACILITY	1987	1989	% Change	1987	1989	% Change	1987	1989	% Change
Hospitals	1	1	-	2	2	-	1	1	-
Skilled Nursing Intermediate Care	1	1	-	3	3	-	1	1	-
Intermediate Care Facilities/MR	-	-	-	1	1	-	-	-	-
Special Treatment Facilities	-	-	-	2	2	-	-	-	-
Independent Laboratories	-	-	-	4	2	- 50	-	-	-
Home Health Agencies	1	1	-	1	1	-	1	1	-
End-Stage Renal Disease	-	-	-	1	2	+ 100	-	-	-
Adult Residential Care Homes	-	-	-	18	17	- 6	10	10	-
Independent Rehabilitation Facilities	-	-	-	-	-	-	-	-	-
Freestanding Outpatient Surgical Facilities	-	-	-	-	1	1	-	-	-
Adult Day Health Centers	-	-	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-	-	-

TABLE 2
CHANGES IN BED COUNT IN FACILITIES BY ISLAND
STATE OF HAWAII, 1987 - 1989

	ISLAND											
	State Total			Oahu			Hawaii			Kauai		
TYPE OF FACILITY	1987	1989	% Change	1987	1989	% Change	1987	1989	% Change	1987	1989	% Change
Hospitals	2919	2995	+ 3	2360	2459	+ 4	264	256	- 3	122	111	- 9
Skilled Nursing/ Intermediate Care	2988	3328	+ 11	2036	2292	+ 13	400	466	+ 17	191	209	+ 9
Intermediate Care Facilities/MR	297	220	- 26	289	208	- 28	-	-	-	0	4	+ 400
Special Treatment Facilities	463	513	+ 6	402	425	+ 6	13	20	+ 54	12	12	-
Adult Residential Care Homes	2809	2614	- 7	2260	2131	- 6	249	220	- 12	179	140	- 22

Table 2 (Continued)

	ISLAND								
	Lanai			Maui			Molokai		
TYPE OF FACILITY	1987	1989	% Change	1987	1989	% Change	1987	1989	% Change
Hospitals	6	6	-	151	147	- 3	16	16	-
Skilled Nursing/ Intermediate Care	8	8	-	339	339	-	14	14	-
Intermediate Care Facilities/MR	-	-	-	8	8	-	-	-	-
Special Treatment Facilities	-	-	-	56	56	-	-	-	-
Adult Residential Care Homes	-	-	-	73	72	- 1	48	51	+ 6

TABLE 3
TYPES*, NUMBER AND BED COUNT OF ADULT RESIDENTIAL CARE HOMES BY ISLAND
STATE OF HAWAII, 1989

	ISLAND											
	State Total			Oahu			Hawaii			Kauai		
	Type II	Type I	Total	Type II	Type I	Total	Type II	Type I	Total	Type II	Type I	Total
Number	15	503	518	10	400	410	1	52	53	3	25	28
Bed Count	454	2160	2614	375	1756	2131	13	207	220	52	88	140

Table 3 (Continued)

	ISLAND					
	Maui			Molokai		
	Type II	Type I	Total	Type II	Type I	Total
Number	0	17	17	1	9	10
Bed Count	0	72	72	14	37	51

Note: * Type II - More than five beds
Type I - Five beds or less

HEALTH PROMOTION AND DISEASE PREVENTION ADMINISTRATION

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HEALTH PROMOTION AND EDUCATION DIVISION
  Health Promotion and Education Branch 107
  Nutrition Branch 123
  Preventive Health Service Branch 127

COMMUNICABLE DISEASE DIVISION 135
  Epidemiology Branch 136
  STD/AIDS Prevention Branch 140
  Tuberculosis/Hansen's Disease Control Branch
    Tuberculosis 146
    Hansen's Disease 152
  Hansen's Disease Institutional Service Branch 158

DENTAL HEALTH DIVISION 159

OFFICE OF REFUGEE AND IMMIGRANT HEALTH

SUMMARY

The Office of Refugee and Immigrant Health (RIH) is administered by the Hawai'i Department of Health to provide for the coordination of health, tuberculosis, and dental screening for Hawaii's refugee arrivals. RIH also maintains a refugee health registry to monitor the health status of Hawaii's refugee population and to collect health data for state and federal information purposes. RIH also monitors and coordinates the health data on high-risk immigrant arrivals. Funding is provided by the State of Hawai'i and by the federal government through the Centers for Disease Control.

Hawaii's total refugee population is an estimated 8,000 [1]. Approximately 98% of this total have come from Southeast Asia (Vietnam, Laos, and Cambodia). Refugee arrivals in Fiscal Year 1989 included 230 new arrivals and 8 refugee migrants from other states still needing health assessment.

Of the 238 refugees needing health assessment, 89% received health screening. Ninety-eight percent (98%) of those screened had one or more notable health problems, including the following ranked by noted prevalence:

Dental disease	99%
Need for immunizations	98%
Tuberculosis (positive skin test)	55%
Skin	31%
Intestinal parasites	29%
Eye	18%
Hepatitis B	
Infectious	8%
Potentially infectious	7%
Immune (from prior exposure)	36%
Susceptible	48%
Anemia	16%
Genito-urinary	15%

RIH coordinates refugee health care screening and referral services between the Department of Health and other agencies, both public and private, such as voluntary resettlement programs, case management services, and private medical and dental providers.

Table 2 presents data for immigrants who are allowed into Hawai'i with Class A, B, and C health conditions:

Class A: Dangerous contagious disease or mental conditions
Class B: Physical defect, disease, or disability serious in degree or permanent in nature amounting to a substantial departure from normal physical well-being
Class C: Minor conditions

---

[1] Estimated number of Southeast Asian refugees living in Hawai'i totals 8,000 as of September, 1989 (Source: Office of Refugee Resettlement, September, 1989).

HEALTH PROBLEMS OF REFUGEES

A total of 230 new refugees arrived in the State of Hawai'i July 1, 1988-June 30, 1989. Of the 210 refugees who received health assessments and the 193 refugees who received dental assessments, the following prevalence of health problems was noted:

Dental	99%
Need for immunizations	98%
Positive tuberculosis skin tests	55%
Skin	31%
Intestinal parasites	29%
Eye	18%
Anemia	16%
Hepatitis B	
Infectious	8%
Potentially infectious	7%
Immune (from prior exposure)	36%
Susceptible	48%
Genito-urinary	15%
Ear	8%
Musculo-skeletal	8%
Gastro-intestinal	7%
Thyroid	7%

Some refugees have psychological problems from past hardship. Language and cultural barriers complicate access to health services.

HEALTH PROBLEMS OF IMMIGRANTS

About 7,000 immigrants enter Hawai'i each year, mostly from Asia. Though they undergo examinations before being granted visas, some enter Hawai'i with excludable conditions. Tuberculosis, heart, hypertension, eye, dental, respiratory, and skin are the main problems. Testing for hepatitis B is not required for a visa application. However, hepatitis B prevalence in Asian and Pacific Island populations is considerably higher than the general U.S. population. Language and cultural barriers complicate access to health services.

CONCLUSIONS

Refugees and immigrants need to resolve their health problems before they can become productive residents of the State. All State residents need to be protected from communicable disease to maintain their health and productivity. By improving preventive health care and access to health services, refugees and immigrants can become productive more quickly while the health of the general population is protected.

OFFICE OF REFUGEE AND IMMIGRANT HEALTH

TABLE 1
DEMOGRAPHIC BREAKDOWN OF REFUGEES ENTERING HAWAII (PRIMARY ARRIVALS a/)
July 1, 1988 - June 30, 1989

AGE (years)	COUNTRY OF ORIGIN									
	VIETNAM		LAOS		CAMBODIA		OTHER		TOTAL	
	SEX		SEX		SEX		SEX			
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	Number	Percent
Under 1 year	-	3	-	-	-	-	-	-	3	1%
1 - 4	2	2	1	1	-	-	-	-	6	3%
5 - 9	9	6	-	-	-	-	-	-	15	7%
10 - 14	23	5	2	2	-	-	-	-	32	14%
15 - 19	19	8	2	2	-	-	-	1	32	14%
20 - 34	41	41	3	6	1	-	-	2	94	41%
35 - 44	13	14	1	2	-	-	-	-	30	13%
45 - 64	6	6	1	1	-	-	1	1	16	7%
65 or Older	-	1	-	1	-	-	-	-	2	1%
TOTAL	113	86	10	15	1	-	1	4	230	
PERCENT	49%	37%	4%	7%	<1%	0%	<1%	2%		

TABLE 2
IMMIGRANTS ALLOWED INTO HAWAII WITH CLASS A, B, AND C CONDITIONS
JULY 1, 1988 - JUNE 30, 1989

PHILIPPINES M: 201 F: 211 UNK: 2

AGES	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71+
COUNT	27 (7%)	13 (3%)	41 (10%)	42 (10%)	47 (11%)	77 (19%)	104 (25%)	61 (15%)
CLASS	A			B		C		
TB	150 (36%)			260 (63%)		-		
Heart-Vascular	-			72 (17%)		87 (21%)		
Eye	-			38 (9%)		136 (33%)		
Dental	-			2 (0.5%)		117 (28%)		
Ear	-			11 (3%)		6 (1%)		
Skin	-			-		113 (27%)		
Intestine-Stomach	-			1 (0.2%)		5 (1%)		
Respiratory	-			40 (10%)		15 (4%)		
Musculo-Skeletal	-			13 (3%)		22 (5%)		
Genito-Urinary	-			-		-		
Operation	-			5 (1%)		54 (13%)		
Mental	1 (0.2%)			3 (0.7%)		-		
Nervous	-			-		-		
Lymphatic	-			-		-		
Other	-			12 (3%)		52 (13%)		
TOTAL	151			457		607		

TABLE 2 (Cont.)
IMMIGRANTS ALLOWED INTO HAWAII WITH CLASS A, B, AND C CONDITIONS
JULY 1, 1988 - JUNE 30, 1989

KOREA M: 27 F: 28								
AGES	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71+
COUNT	0 (0%)	4 (7%)	13 (24%)	8 (15%)	9 (16%)	7 (13%)	11 (20%)	3 (5%)
CLASS	A			B		C		
TB	4 (7%)			53 (96%)		-		
Heart	-			1 (2%)		-		
Eye	-			1 (2%)		-		
Dental	-			-		-		
Ear	-			-		-		
Skin	-			-		1 (2%)		
Intestine-Stomach	-			-		-		
Respiratory	-			-		-		
Musculo-Skeletal	-			2 (4%)		-		
Genito-Urinary	-			1 (2%)		-		
Operation	-			2 (4%)		-		
Mental	-			-		-		
Nervous	-			-		-		
Lymphatic	-			-		-		
Other	-			1 (2%)		-		
TOTAL	4			61		1		

TABLE 2 (Cont.)
IMMIGRANTS ALLOWED INTO HAWAII WITH CLASS A, B, AND C CONDITIONS
JULY 1, 1988 - JUNE 30, 1989

HONG KONG M: 30 F: 20

AGES	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71+
COUNT	0 (0%)	0 (0%)	5 (10%)	9 (18%)	19 (38%)	9 (18%)	6 (12%)	2 (4%)

CLASS	A	B	C
TB	2 (4%)	48 (96%)	-
Heart-Vascular	-	-	-
Eye	-	-	1 (2%)
Dental	-	-	-
Ear	-	1 (2%)	-
Skin	-	-	-
Intestine-Stomach	-	-	-
Respiratory	-	-	-
Musculo-Skeletal	-	-	-
Genito-Urinary	-	1 (2%)	-
Operation	-	2 (4%)	-
Mental	-	-	-
Nervous	-	-	-
Lymphatic	-	-	-
Other	-	2 (4%)	-
TOTAL	2	54	1

OFFICE OF REFUGEE AND IMMIGRANT HEALTH

TABLE 2 (Cont.)
IMMIGRANTS ALLOWED INTO HAWAII WITH CLASS A, B, AND C CONDITIONS
JULY 1, 1988 - JUNE 30, 1989

OTHER M: 13 F: 13								
AGES	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71+
COUNT	0 (0%)	3 (12%)	1 (4%)	3 (12%)	4 (15%)	5 (19%)	7 (27%)	3 (12%)
CLASS	A			B		C		
TB	2 (8%)			21 (81%)		-		
Heart	-			4 (15%)		-		
Eye	-			4 (15%)		1 (4%)		
Dental	-			-		-		
Ear	-			-		-		
Skin	-			-		-		
Intestine-Stomach	-			-		-		
Respiratory	-			1 (4%)		-		
Musculo-Skeletal	-			-		-		
Genito-Urinary	-			-		-		
Operation	-			-		-		
Mental	-			-		-		
Nervous	-			-		-		
Lymphatic	-			-		-		
Other	-			-		-		
TOTAL	2			30		1		

TABLE 2 (Cont.)
IMMIGRANTS ALLOWED INTO HAWAII WITH CLASS A, B, AND C CONDITIONS
JULY 1, 1988 - JUNE 30, 1989

ALL M: 271 F: 272 UNK:2	
	TOTAL
TB	540 (99%)
Heart-Vascular	164 (30%)
Eye	181 (33%)
Dental	119 (22%)
Ear	18 (3%)
Skin	114 (21%)
Intestine-Stomach	6 (1%)
Respiratory	56 (10%)
Musculo-Skeletal	37 (7%)
Genito-Urinary	2 (0.4%)
Operation	63 (12%)
Mental	4 (0.7%)
Nervous	-
Lymphatic	-
Other	67 (12%)

SUMMARY

The Behavioral Risk Factor Surveillance System (BRFSS) was initiated in Hawai'i in 1986 by the Health Promotion and Education Office, now the Health Promotion and Education Branch, with the assistance of the Centers for Disease Control (CDC). The BRFSS is designed to collect information on health risk behaviors of adult Hawai'i residents and to monitor the prevalence of these behaviors over time. The risk factors surveyed are major contributors to premature death and disability. They include cigarette smoking, hypertension, obesity, physical inactivity, seatbelt nonuse, and alcohol misuse.

The BRFSS is comprised of monthly telephone surveys that follow a recommended CDC sampling procedure which uses a version of random-digit dialing based on clusters of telephone numbers.

The Behavioral Risk Factor Survey has a number of questions which were selected for comparability from national surveys. Similar methods used each year by states conducting this CDC-sponsored survey also allow for comparisons of risk factor prevalence and the monitoring of trends over time.

The Hawai'i sample was drawn from all residents over the age of 18, excluding institutionalized persons and on-base military personnel. One thousand eight hundred and sixty-six (1866) interviews were completed over a 12-month period from January through December, 1989. Highlights of the 1989 data are cited here.

A. Seatbelt Nonuse

An estimated six percent (6.2%) of Hawaii's population "sometimes, seldom, or never" use seatbelts when driving or riding in a car (see Table 1). This low percentage suggests a continuing high degree of conformation to the Hawaii's seatbelt law, which became effective December, 1985.

The following variables were found to be separately associated with seatbelt nonuse: sex, age, race, education, and marital status.

(1) **Sex:** The percentage of males not using seatbelts was almost twice the percentage of females not using seatbelts.

(2) **Age:** There was no clear trend in seatbelt nonuse by age. The highest rate occurred among the youngest group, those 18-24 years old.

(3) **Race:** Hawaiians/Part-Hawaiians had the highest rate of seatbelt nonuse.

(4) **Education:** With the exception of those with some college, seatbelt nonuse was found to be inversely related to education. From a low of 1.4% for those having a post graduate or professional degree to a high of 9.3% for those with an eighth grade or lower education level.

(5) **Marital Status:** The highest rates of seatbelt nonuse were found among those who are a member of an unmarried couple, separated, or never married.

No associations were found between seatbelt nonuse and the following variables: employment status and household income.

B. Hypertension

Survey respondents were defined as hypertensive if: a) they were told more than once that their blood pressure is high, b) they were on medication at the time, or c) they reported that their blood pressure is still high. In 1989, 21.8% of the adult population reported having hypertension (see Table 2).

The following variables were found to be separately associated with hypertension: age, race, education, employment status, household income, and marital status.

(1) **Age:** Hypertension was found to be directly related to age from 9.2% for those 18-24 years of age to 52.8% for those 65 years old and over.

(2) **Race:** Hawaiians/Part-Hawaiians and Japanese had the highest percentages of hypertension.

(3) **Education:** With the exception of those with a post graduate or professional degree, hypertension was inversely related to education level. From a low of 10.1% for the college graduate to a high of 40.8% for those with an eighth grade or lower education level. The lowest education levels, eighth grade or less and some high school, had the highest percentages of those with hypertension.

(4) **Employment Status:** Retired persons and homemakers had the highest percentages of those with hypertension. However, the high percentage for retirees is probably confounded with age.

(5) **Household Income:** There was no clear trend in hypertension by household income. Persons with incomes between $15,000 and $19,999 had a slightly higher rate.

(6) **Marital Status:** The widowed had the highest percentage of hypertension.

No association was found between hypertension and sex.

C. Sedentary Lifestyle

More than one half (54.8%) of all adults in Hawai'i had a sedentary lifestyle (See Table 3). Respondents who reported no physical activity or levels of physical activity less than three times a week or less than 20 minutes per occasion were considered to be sedentary.

The following variables were found to be separately associated with sedentary lifestyle: sex, age, race, education, employment status, and household income.

(1) **Sex:** A slightly higher percentage of women were sedentary compared to men.

(2) **Age:** There was no clear trend in sedentary lifestyle and age. Both those 35-44 years old and 45-54 years old had the higher rates.

(3) **Race:** Filipinos had the highest percentage of people with a sedentary lifestyle.

(4) **Education:** Although there was no clear trend in sedentary lifestyle and education, those with a lower education level had the higher rates of a sedentary lifestyle.

(5) **Employment Status:** Those employed for wages, homemakers, and the out-of-work had the higher percentages of sedentary lifestyle.

(6) **Household Income:** There was no clear trend in sedentary lifestyle and household income level. Those falling in the $10,000-$14,999 and less than $10,000 levels had the highest rates of sedentary lifestyle.

No association was found between sedentary lifestyle and marital status.

In 1989, the 10 most popular physical activities in which Hawai'i adults participated were:

	Type	Percentage
1.	Walking	35.6%
2.	Jogging	15.3%
3.	Gardening	6.0%
4.	Aerobic Class	5.6%
5.	Swimming	4.9%
6.	Weight Lifting	4.5%
7.	Golf	4.4%
8.	Bicycling	3.9%
9.	Tennis	3.0%
10.	Basketball	2.6%

D. Obesity

Approximately one out of every five adult Hawai'i residents (20.9%) were considered obese. For the purposes of the survey, obesity was defined as 20% or more above "ideal weight" (see Table 4). Ideal weight is defined as the "mid-value of a medium frame person from the 1959 Metropolitan height-weight tables."

The following variables were found to be separately associated with obesity: age, race, and education.

(1) **Age:** The percentage of those obese increased with age until the 45-54 age group, and then decreased.

(2) **Race:** Hawaiians/Part-Hawaiians had the highest percentage of people who were obese, almost two times greater than the state prevalence rate.

(3) **Education:** Obesity seemed to be more common among persons with lower education levels.

No associations were found between obesity and the following variables: sex, employment status, household income, and marital status.

E. Smoking

An estimated twenty-two percent of the adult population were identified as smokers, which was defined as "ever smoked 100 cigarettes and smokes now" (see Table 5).

The following variables were found to be separately associated with smoking: age, race, education, employment status, household income, and marital status.

(1) **Age:** Smoking was found to increase directly with age until the 45-54 year age groups, and then decreased.

(2) **Race:** Hawaiians/Part-Hawaiians had the highest percentage of smokers.

(3) **Education:** Although no trend was found between smoking and education level, those with only some high school and those with a high school diploma or GED equivalent had the higher rates.

(4) **Employment Status:** Those out-of-work had the highest percentage of smokers.

(5) **Household Income:** Although there was no clear trend between smoking and household income level, those who earned $10,000-$14,999 had the highest rate of smoking.

(6) **Marital Status:** Persons who were divorced or separated had the higher percentage of smokers.

No association was found between smoking and sex.

F. Acute Drinking

Nearly twenty percent of Hawaii's adult population reported binge drinking in 1989 (see Table 6). Binge drinking, also called acute drinking, was defined as "having five or more drinks on an occasion, one or more times in the past month."

The following variables were found to be separately associated with acute drinking: sex, age, race, education, employment status, and marital status.

(1) **Sex:** The percentage of males that engaged in binge drinking was more than triple the percentage of women engaged in binge drinking.

(2) **Age:** In general, binge drinking decreased as age increased. From a high of 27.0% for those age 18-24 years old, to a low of 4.0% for those 65 years of age and older.

(3) **Race:** Hawaiians/Part-Hawaiians and Caucasians had the highest percentages of binge drinking.

(4) **Education:** Although there was no trend in binge drinking by education level, those with some college had the highest rate of binge drinking.

(5) **Employment Status:** Those who are employed for wages had the highest rate of binge drinking.

(6) **Marital Status:** Those who are divorced, separated, never married, or members of an unmarried couple had higher rates of binge drinking.

No association was found between binge drinking and household income.

G. Chronic Drinking

Chronic drinking was defined as "having an average of two or more drinks per day during the past month". In 1989, 7.2% of Hawaii's adults reported chronic drinking (see Table 7).

The following variables found to be associated with chronic drinking were: sex, age, race, education, employment status, and marital status.

(1) **Sex:** The percentage of males who were chronic drinkers was four times greater than the percentage of women who were chronic drinkers.

(2) **Age:** Although there was no trend in chronic drinking by age, those 25-34 years old and 35-44 years old had the highest rates.

(3) **Race:** Hawaiians/Part-Hawaiians and Caucasians had the highest rates of chronic drinking.

(4) **Education:** Chronic drinking increased with education level until the technical school level, and then decreased.

(5) **Employment Status:** Those self employed or unemployed had the highest rates of chronic drinking.

(6) **Marital Status:** Those who were separated or divorced had the highest rates of chronic drinking.

There was no association between chronic drinking and household income.

H. Drinking and Driving

In 1989, 3.7% of adults in Hawai'i reported driving after having too much to drink, one or more times during the past month (see Table 8).

The following variables were found to be separately associated with drinking and driving: sex, age, education, employment status, and marital status.

(1) **Sex:** The percentage of drinking and driving was slightly over two times higher for men than women.

(2) **Age:** In general, drinking and driving decreased with increasing age from 5.4% for those 18-24 years old to 0.0% for those 65 years and older.

(3) **Education:** No clear trend was found between drinking and driving and education level. Those with a technical school education and college graduates had the highest rates.

(4) **Employment Status:** Students and the unemployed had the higher rates of drinking and driving.

(5) **Marital Status:** Those separated, divorced, or never married had the highest rates of drinking and driving.

No associations were found between drinking and driving and the following variables: race, and household income.

I. Preventive Health Practices

The 1989 Preventive Health Practices module included questions about cholesterol, and mammograms.

1. Cholesterol

Elevated blood cholesterol is a major risk factor for coronary heart disease (CHD), the leading cause of death in the U.S. claiming an estimated 550,000 lives each year. Current studies indicate that a 1% decline in serum cholesterol results in a 2% decline in the risk of developing cardiovascular disease.

In 1987, the National Cholesterol Education Program, initiated by the National Institutes of Health, set new guidelines concerning cholesterol level and risk of cardiovascular disease. In the simplified guidelines, a serum cholesterol level of 240 mg/dl or greater is considered "high"; 200 to 239 mg/dl is considered "borderline-high"; and less than 200 mg/dl is considered "desirable".

Over half (53.2%) of Hawaii's adult population reported having had their blood cholesterol tested. Slightly more than one-third (35.7%) of Hawaii's adults reported that they had been told their cholesterol level in numbers. Slightly less than one-fifth (19.3%) of all adults in Hawai'i were able to provide a value for their cholesterol level.

Table 9 shows the cholesterol awareness of Hawaii's adult population by selected demographics. Statistically significant differences by age and race were found in the percentage of people tested, the percentage of people told their cholesterol level, and the percentage of people who know their cholesterol level.

(1) **Age:** As age increased, the percentage of those tested for cholesterol generally increased. The increase from the youngest to the oldest age group was over two and a half times. The percentage of adult residents who were told their cholesterol level increased with age until the 55-64 year old group, then decreased slightly.

(2) **Race:** Filipinos and Hawaiian/Part-Hawaiians had the lowest proportions of adults tested for cholesterol, told their cholesterol level, and who knew their cholesterol level.

No significant differences were found by sex.

2. Mammography

In the U.S., an estimated 41,000 female deaths occurred from breast cancer in 1987, making it the second leading cause of cancer death among U.S. women, with lung cancer being first. According to the American Cancer Society, about one out of ten women will develop breast cancer during her lifetime.

Early detection of breast cancer offers the greatest chance of recovery and of prolonging life. The practice of monthly breast self-examinations by women 20 years of age and older is recommended by the American Cancer Society. However, mammography, a low dose X-ray examination, has been shown to provide additional protection through the detection of cancers too small to be felt even by experienced examiners.

The National Cancer Institute and the American Cancer Society (ACS) recommend that women age 50 and over have an annual screening mammogram and that women age 40-49 years of age have a mammogram every 1 to 2 years. Furthermore, the ACS recommends that women 35 to 39 years of age also obtain a mammogram to establish a baseline against which later mammograms can be compared.

Table 10 shows the percentage of women who had a screening mammogram according to when they obtained it. Mammograms done because of a breast problem or a history of breast cancer were not considered screening mammograms. Only mammograms done as part of a routine checkup were considered screening mammograms.

While it is recommended that all women age 50 and over have an annual screening mammogram, only 51.9 percent of all women in Hawai'i in this age group reported having had one during the past year. It is also recommended that women age 40-49 years have a mammogram every 1 to 2 years. In Hawai'i, only 53.6% of the women in this age group had a screening mammogram during the past two years (43.6%) had one during the past year and 10.0% had a screening mammogram one to two years ago.

J. Truck Use

The 1989 questionnaire included for the first time a module on truck ownership, use, and opinions. Table 11 shows the percentage of all respondents who own or have a family member who owns a truck. Overall, 38.9% of the respondents reported that they or a family member owns a truck. Significant associations were found by age and race.

(1) **Age:** Those 45-54 years old and 25-34 years old had the highest percentages of owning or having a family member who owns a truck.

(2) **Race:** Hawaiian/Part-Hawaiians and Filipinos had the highest percentages of owning or having a family member who owns a truck.

Table 12 shows how often those respondents who have or whose family member has, a truck have riders in their truck bed. Overall, 37.2% never have riders, 36.9% rarely have riders, 17.2% sometimes have riders, and 7.5% have riders most of the time. There were significant differences by age and race.

(1) **Age:** For most of the age groups, they rarely or never had riders in their truck bed. However, one-fifth of those in the 18-24 year age group responded that they had riders in their truck most of the time.

(2) **Race:** Hawaiians/Part-Hawaiians and Filipinos had the highest percentage of those who had riders in their truck bed. However, this percentage was still less than 20%.

TABLE 1
PREVALENCE OF SEATBELT NONUSE[1] BY DEMOGRAPHIC CHARACTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	SEATBELT NONUSE		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	8.0	+- 2.3 (5.7,10.2)
Female	976	4.4	+- 1.8 (2.6, 6.1)
AGE			
18 - 24	215	11.1	+- 5.3 (5.8,16.4)
25 - 34	467	5.8	+- 2.4 (3.4, 8.1)
35 - 44	454	3.8	+- 2.0 (1.8, 5.8)
45 - 54	243	4.6	+- 2.9 (1.7, 7.5)
55 - 64	210	4.8	+- 3.4 (1.4, 8.3)
65+	271	6.2	+- 4.1 (2.1,10.3)
RACE			
Caucasian	705	6.0	+- 2.3 (3.6, 8.3)
Hawaiian/Part-Hawaiian	253	8.5	+- 4.7 (3.8,13.1)
Filipino	194	4.0	+- 3.9 (0.1, 7.9)
Japanese	462	4.8	+- 2.4 (2.5, 7.2)
Other	246	8.6	+- 4.1 (4.5,12.8)
EDUCATION			
Eighth Grade or Less	110	9.3	+- 7.7 (1.6,16.9)
Some High School	115	8.9	+- 6.0 (2.9,14.8)
High School Graduate or GED Certificate	603	8.2	+- 2.8 (5.4,10.9)
Technical School	84	4.6	+- 4.9 (-0.3,9.5)
Some College	422	5.1	+- 3.1 (2.0, 8.1)
College Graduate	342	3.6	+- 2.4 (1.3, 6.0)
Post Graduate or Professional Degree	178	1.4	+- 1.6 (-0.1,3.0)
EMPLOYMENT STATUS			
Employed for Wages	1,139	5.9	+- 1.7 (4.2, 7.6)
Self Employed	169	7.6	+- 5.2 (2.4,12.8)
Out of Work	82	12.0	+- 11.4 (0.7,23.4)
Homemaker	105	3.2	+- 4.4 (-1.2, 7.6)
Student	60	3.4	+- 5.1 (1.7, 8.6)
Retired	303	6.8	+- 3.9 (3.0,10.7)
HOUSEHOLD INCOME			
Less than $10,000	176	6.2	+- 3.5 (2.7, 9.7)
$10,000 - $14,999	191	4.7	+- 3.1 (1.5, 7.8)
$15,000 - $19,999	182	7.9	+- 5.2 (2.7,13.1)
$20,000 - $24,999	216	8.7	+- 4.8 (3.8,13.5)
$25,000 - $34,999	319	5.0	+- 3.6 (1.4, 8.6)
$35,000 - $49,999	300	5.1	+- 3.0 (2.1, 8.1)
OVER $50,000	280	9.0	+- 2.5 (1.5, 6.6)
MARITAL STATUS			
Married	1,069	4.2	+- 1.5 (2.7, 5.7)
Divorced	192	6.2	+- 3.8 (2.5,10.0)
Widowed	137	4.8	+- 3.8 (1.0, 8.5)
Separated	44	12.4	+- 12.4 (0.2,24.5)
Never Married	371	10.5	+- 4.2 (6.3,14.7)
Member of an Unmarried Couple	45	13.6	+- 13.9 (-0.3,27.6)
TOTAL	1,860	6.2	+- 1.4 (4.7, 7.6)

Notes:

[1] Seatbelt nonuse is defined as sometimes, seldom or never using seatbelts.

[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.

[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 2
PREVALENCE OF HYPERTENSION[1] BY DEMOGRAPHIC CHARACTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	HYPERTENSION		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	21.4	+- 3.1 (18.2,24.5)
Female	976	22.3	+- 3.0 (19.2,25.3)
AGE			
18 - 24	215	9.2	+- 4.4 (4.7,13.6)
25 - 34	467	9.4	+- 2.7 (6.7,12.1)
35 - 44	454	17.1	+- 3.9 (13.2,21.1)
45 - 54	243	28.1	+- 6.6 (21.5,34.7)
55 - 64	210	36.6	+- 7.4 (29.2,44.0)
65+	271	52.8	+- 6.8 (46.0,59.7)
RACE			
Caucasian	705	16.9	+- 3.2 (13.7,20.1)
Hawaiian/Part-Hawaiian	253	27.5	+- 6.5 (21.1,34.0)
Filipino	194	19.7	+- 6.1 (13.6,25.8)
Japanese	462	26.7	+- 4.5 (22.2,31.2)
Other	246	19.2	+- 5.5 (13.7,24.7)
EDUCATION			
Eighth Grade or Less	110	40.8	+- 11.4 (29.4,52.2)
Some High School	115	35.0	+- 10.2 (24.8,45.2)
High School Graduate or GED Certificate	603	24.5	+- 3.9 (20.6,28.4)
Technical School	84	28.4	+- 11.5 (16.9,39.8)
Some College	422	17.1	+- 4.1 (12.9,21.2)
College Graduate	342	10.1	+- 3.3 (6.8,13.5)
Post Graduate or Professional Degree	178	20.5	+- 6.8 (13.6,27.3)
EMPLOYMENT STATUS			
Employed for Wages	1,139	17.7	+- 2.6 (15.1,20.2)
Self Employed	169	14.1	+- 6.1 (8.0,20.2)
Out of Work	82	19.7	+- 9.8 (9.9,29.5)
Homemaker	105	29.2	+- 10.2 (19.0,39.4)
Student	60	5.7	+- 5.2 (0.5,10.9)
Retired	303	47.4	+- 6.6 (40.8,54.0)
HOUSEHOLD INCOME			
Less than $10,000	176	21.9	+- 6.7 (15.2,28.6)
$10,000 - $14,999	191	22.6	+- 7.0 (15.5,29.6)
$15,000 - $19,999	182	25.2	+- 7.5 (17.7,32.7)
$20,000 - $24,999	216	17.9	+- 5.6 (12.4,23.5)
$25,000 - $34,999	319	16.4	+- 4.8 (11.5,21.2)
$35,000 - $49,999	300	23.3	+- 5.6 (17.7,28.9)
OVER $50,000	280	23.5	+- 6.0 (17.5,29.5)
MARITAL STATUS			
Married	1,069	23.6	+- 2.9 (20.7,26.4)
Divorced	192	23.9	+- 7.5 (16.4,31.5)
Widowed	137	50.5	+- 10.7 (39.9,61.2)
Separated	44	22.3	+- 14.4 (7.9,36.6)
Never Married	371	11.6	+- 3.7 (7.9,15.3)
Member of an Unmarried Couple	45	9.3	+- 7.5 (1.8,16.7)
TOTAL	1,860	21.8	+- 2.2 (19.6,24.0)

Notes:
[1] Survey respondents were defined as hypertensive if a) they were told more than once that their blood pressure is high, b) they were on medication at the time, or c) they reported that their blood pressure was still high.
[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.
[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 3
PREVALENCE OF SEDENTARY LIFESTYLE[1] BY DEMOGRAPHIC CHARACTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	SEDENTARY LIFESTYLE		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	51.9	+- 3.8 (48.1,55.7)
Female	976	57.6	+- 3.7 (53.9,61.3)
AGE			
18 - 24	215	53.3	+- 7.8 (45.5,61.0)
25 - 34	467	51.7	+- 5.1 (46.5,56.8)
35 - 44	454	61.0	+- 4.8 (56.2,65.8)
45 - 54	243	61.6	+- 6.9 (54.6,68.5)
55 - 64	210	55.1	+- 7.5 (47.6,62.6)
65+	271	46.4	+- 7.0 (39.5,53.4)
RACE			
Caucasian	705	43.3	+- 4.1 (39.2,47.4)
Hawaiian/Part-Hawaiian	253	54.7	+- 7.2 (47.5,61.9)
Filipino	194	76.3	+- 6.6 (69.7,82.9)
Japanese	462	57.1	+- 5.4 (51.7,62.5)
Other	246	51.8	+- 7.3 (44.5,59.1)
EDUCATION			
Eighth Grade or Less	110	69.1	+- 10.2 (58.9,79.3)
Some High School	115	71.2	+- 9.3 (61.9,80.5)
High School Graduate or GED Certificate	603	57.7	+- 4.5 (53.2,62.2)
Technical School	84	63.3	+- 11.6 (51.7,75.0)
Some College	422	49.7	+- 5.7 (44.0,55.5)
College Graduate	342	47.2	+- 6.5 (40.7,53.7)
Post Graduate or Professional Degree	178	44.0	+- 8.6 (35.5,52.6)
EMPLOYMENT STATUS			
Employed for Wages	1,139	58.0	+- 3.3 (54.7,61.3)
Self Employed	169	49.9	+- 8.6 (41.3,58.4)
Out of Work	82	56.5	+- 13.0 (43.4,69.5)
Homemaker	105	57.4	+- 10.5 (46.8,67.9)
Student	60	53.7	+- 15.0 (38.7,68.7)
Retired	303	40.8	+- 6.6 (34.1,47.4)
HOUSEHOLD INCOME			
Less than $10,000	176	63.6	+- 8.8 (54.8,72.4)
$10,000 - $14,999	191	64.1	+- 7.8 (56.2,71.9)
$15,000 - $19,999	182	55.4	+- 8.4 (47.0,63.8)
$20,000 - $24,999	216	49.7	+- 7.6 (42.1,57.3)
$25,000 - $34,999	319	55.7	+- 6.3 (49.4,62.1)
$35,000 - $49,999	300	52.5	+- 6.4 (46.1,58.9)
OVER $50,000	280	46.1	+- 7.1 (39.0,53.2)
MARITAL STATUS			
Married	1,069	55.7	+- 3.2 (52.2,58.9)
Divorced	192	57.5	+- 8.3 (49.2,65.9)
Widowed	137	58.4	+- 10.3 (48.1,68.7)
Separated	44	41.5	+- 17.0 (24.5,58.5)
Never Married	371	51.3	+- 6.6 (44.7,57.9)
Member of an Unmarried Couple	45	54.9	+- 16.3 (38.6,71.2)
TOTAL	1,860	54.8	+- 2.7 (52.1,57.4)

Notes: [1] Sedentary Lifestyle: No physical activity or physical activity less than three time per week or less than 20 minutes per occasion.

[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.

[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 4
PREVALENCE OF OVERWEIGHT[1] BY DEMOGRAPHIC CHARCTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	OVERWEIGHT		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	23.3	+- 3.3 (20.1,26.6)
Female	976	18.5	+- 2.8 (15.7,21.3)
AGE			
18 - 24	215	14.0	+- 5.5 (8.5,19.5)
25 - 34	467	19.9	+- 4.0 (15.9,23.8)
35 - 44	454	21.9	+- 4.1 (17.8,26.0)
45 - 54	243	30.2	+- 6.8 (23.3,37.0)
55 - 64	210	19.3	+- 6.0 (13.3,25.3)
65+	271	22.9	+- 6.4 (16.5,29.3)
RACE			
Caucasian	705	15.9	+- 3.1 (12.8,19.0)
Hawaiian/Part-Hawaiian	253	40.2	+- 7.0 (33.3,47.2)
Filipino	194	18.7	+- 6.2 (12.5,24.9)
Japanese	462	16.3	+- 4.0 (12.4,20.3)
Other	246	21.8	+- 5.9 (15.9,27.7)
EDUCATION			
Eighth Grade or Less	110	26.4	+- 10.1 (16.2,36.5)
Some High School	115	32.1	+- 10.3 (21.8,42.4)
High School Graduate or GED Certificate	603	25.1	+- 4.0 (21.1,29.1)
Technical School	84	18.2	+- 8.8 (9.3,27.0)
Some College	422	18.5	+- 4.3 (14.2,22.8)
College Graduate	342	13.1	+- 3.9 (9.3,17.0)
Post Graduate or Professional Degree	178	14.1	+- 6.3 (7.8,20.4)
EMPLOYMENT STATUS			
Employed for Wages	1,139	20.6	+- 2.7 (17.9,23.3)
Self Employed	169	21.9	+- 7.3 (14.6,29.2)
Out of Work	82	29.4	+- 11.8 (17.6,41.3)
Homemaker	105	18.2	+- 7.7 (10.5,25.9)
Student	60	12.4	+- 8.9 (3.5,21.4)
Retired	303	22.9	+- 5.9 (17.1,28.8)
HOUSEHOLD INCOME			
Less than $10,000	176	22.2	+- 7.3 (15.0,29.5)
$10,000 - $14,999	191	21.6	+- 7.3 (14.3,28.9)
$15,000 - $19,999	182	23.9	+- 7.5 (16.4,31.4)
$20,000 - $24,999	216	21.2	+- 6.0 (15.2,27.2)
$25,000 - $34,999	319	19.3	+- 5.2 (14.1,24.5)
$35,000 - $49,999	300	24.5	+- 5.7 (18.8,30.2)
OVER $50,000	280	17.3	+- 4.9 (12.4,22.2)
MARITAL STATUS			
Married	1,069	22.2	+- 2.8 (19.4,24.9)
Divorced	192	24.3	+- 7.3 (16.9,31.6)
Widowed	137	23.8	+- 9.4 (14.3,33.2)
Separated	44	31.0	+- 16.7 (14.3,47.6)
Never Married	371	15.9	+- 4.8 (11.1,20.7)
Member of an Unmarried Couple	45	15.2	+- 10.2 (5.0,25.4)
TOTAL	1,860	20.9	+- 2.1 (18.8,23.0)

Notes: [1] Overweight is defined as 20% or more above "ideal weight". Ideal weight defined as the mid-value of a medium frame person from the 1959 Metropolitan Height-Weight tables.

[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.

[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 5
PREVALENCE OF SMOKING[1]
BY DEMOGRAPHIC CHARACTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	SMOKING		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	24.5	+- 3.3 (21.2,27.8)
Female	976	20.2	+- 3.0 (17.2,23.1)
AGE			
18 - 24	215	18.3	+- 5.7 (12.6,24.1)
25 - 34	467	25.4	+- 4.4 (2101,29.8)
35 - 44	454	25.9	+- 4.6 (21.3,30.5)
45 - 54	243	30.6	+- 6.9 (23.7,37.5)
55 - 64	210	19.2	+- 6.2 (13.0,25.4)
65+	271	9.1	+- 4.3 (4.8,13.4)
RACE			
Caucasian	705	22.4	+- 3.6 (18.9,26.0)
Hawaiian/Part-Hawaiian	253	28.2	+- 6.6 (21.6,34.8)
Filipino	194	22.3	+- 6.7 (15.6,29.0)
Japanese	462	20.8	+- 4.2 (16.6,25.0)
Other	246	18.9	+- 5.2 (13.8,24.1)
EDUCATION			
Eighth Grade or Less	110	16.8	+- 8.7 (8.1,25.5)
Some High School	115	28.9	+- 10.2 (18.7,39.1)
High School Graduate or GED Certificate	603	27.3	+- 4.1 (23.2,31.4)
Technical School	84	24.1	+- 10.9 (13.2,35.0)
Some College	422	25.9	+- 4.8 (21.1,30.7)
College Graduate	342	11.8	+- 3.8 (8.0,15.6)
Post Graduate or Professional Degree	178	9.4	+- 4.7 (4.7,14.0)
EMPLOYMENT STATUS			
Employed for Wages	1,139	23.9	+- 2.8 (21.1,26.7)
Self Employed	169	24.4	+- 7.5 (16.9,31.9)
Out of Work	82	36.3	+- 13.6 (22.7,50.0)
Homemaker	105	24.6	+- 9.4 (15.2,34.0)
Student	60	2.7	+- 4.4 (-1.6, 7.1)
Retired	303	14.2	+- 4.8 (9.4,19.0)
HOUSEHOLD INCOME			
Less than $10,000	176	24.5	+- 7.7 (16.7,32.2)
$10,000 - $14,999	191	25.3	+- 7.1 (18.2,32.3)
$15,000 - $19,999	182	21.2	+- 6.6 (14.6,27.8)
$20,000 - $24,999	216	23.2	+- 6.3 (16.9,29.5)
$25,000 - $34,999	319	24.8	+- 5.5 (19.3,30.2)
$35,000 - $49,999	300	22.7	+- 5.6 (17.1,28.3)
OVER $50,000	280	16.0	+- 5.1 (10.8,21.1)
MARITAL STATUS			
Married	1,069	21.2	+- 2.7 (18.5,23.9)
Divorced	192	46.0	+- 8.4 (37.7,54.4)
Widowed	137	12.7	+- 7.4 (5.2,20.1)
Separated	44	35.5	+- 16.7 (18.8,52.2)
Never Married	371	19.6	+- 5.0 (14.6,24.6)
Member of an Unmarried Couple	45	23.4	+- 13.2 (10.2,36.6)
TOTAL	1,860	22.3	+- 2.2 (20.1,24.5)

Notes: [1] Current smoker is defined as having smoked 100 cigarettes and smokes regularly now.

[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.

[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 6
PREVALENCE OF ACUTE DRINKING[1] BY DEMOGRAPHIC CHARACTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	ACUTE DRINKING		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	28.3	+- 3.5 (24.8,31.8)
Female	976	9.4	+- 2.1 (7.4,11.5)
AGE			
18 - 24	215	27.0	+- 6.9 (20.2,33.9)
25 - 34	467	27.6	+- 4.5 (23.1,32.1)
35 - 44	454	19.5	+- 3.9 (15.6,23.4)
45 - 54	243	11.2	+- 4.5 (6.7,15.7)
55 - 64	210	9.6	+- 4.3 (5.3,13.9)
65+	271	4.0	+- 2.3 (1.7, 6.4)
RACE			
Caucasian	705	23.7	+- 3.7 (20.0,27.4)
Hawaiian/Part-Hawaiian	253	28.3	+- 6.5 (21.8,34.8)
Filipino	194	7.3	+- 4.0 (3.3,11.3)
Japanese	462	14.9	+- 3.8 (11.2,18.7)
Other	246	17.8	+- 5.8 (11.9,23.6)
EDUCATION			
Eighth Grade or Less	110	6.4	+- 5.6 (0.8,12.1)
Some High School	115	13.4	+- 6.8 (6.6,20.1)
High School Graduate or GED Certificate	603	20.8	+- 3.7 (17.1,24.6)
Technical School	84	17.2	+- 8.9 (8.4,26.1)
Some College	422	24.4	+- 4.8 (19.6,29.1)
College Graduate	342	16.4	+- 5.4 (11.0,21.8)
Post Graduate or Professional Degree	178	13.4	+- 5.6 (7.7,19.0)
EMPLOYMENT STATUS			
Employed for Wages	1,139	23.2	+- 2.9 (20.4,26.1)
Self Employed	169	16.0	+- 5.9 (10.0,21.9)
Out of Work	82	13.3	+- 9.2 (4.1,22.5)
Homemaker	105	9.0	+- 5.2 (3.8,14.2)
Student	60	16.4	+- 10.1 (6.3,26.6)
Retired	303	6.2	+- 2.8 (3.4, 9.0)
HOUSEHOLD INCOME			
Less than $10,000	176	10.9	+- 5.7 (5.2,16.6)
$10,000 - $14,999	191	17.9	+- 6.1 (11.9,24.0)
$15,000 - $19,999	182	19.3	+- 6.2 (13.0,25.5)
$20,000 - $24,999	216	20.1	+- 5.8 (14.3,25.9)
$25,000 - $34,999	319	20.9	+- 5.3 (15.6,26.2)
$35,000 - $49,999	300	21.9	+- 5.2 (16.7,27.1)
OVER $50,000	280	21.9	+- 6.6 (15.3,28.6)
MARITAL STATUS			
Married	1,069	16.3	+- 2.4 (13.9,18.6)
Divorced	192	26.6	+- 7.6 (19.0,34.2)
Widowed	137	3.7	+- 3.3 (0.4, 7.1)
Separated	44	26.4	+- 14.3 (12.1,40.7)
Never Married	371	25.4	+- 5.7 (19.7,31.2)
Member of an Unmarried Couple	45	24.4	+- 13.5 (10.9,37.9)
TOTAL	1,860	18.8	+- 2.1 (16.7,20.8)

Notes: [1] Acute Drinking, also called binge drinking, is defined as having 5 or more drinks on a given occasion, one or more times in the past month.

[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.

[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 7
PREVALENCE OF CHRONIC DRINKING[1] BY DEMOGRAPHIC CHARACTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	CHRONIC DRINKING		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	11.7	+- 2.4 (9.4,14.1)
Female	976	2.8	+- 1.1 (1.7, 3.9)
AGE			
18 - 24	215	6.7	+- 3.6 (3.1,10.4)
25 - 34	467	9.3	+- 2.9 (6.4,12.3)
35 - 44	454	9.1	+- 2.7 (6.4,11.9)
45 - 54	243	5.7	+- 3.1 (2.5, 8.8)
55 - 64	210	6.9	+- 3.5 (3.4,10.4)
65+	271	2.4	+- 1.7 (0.7, 4.2)
RACE			
Caucasian	705	10.1	+- 2.7 (7.3,12.8)
Hawaiian/Part-Hawaiian	253	11.6	+- 4.6 (6.9,16.2)
Filipino	194	3.1	+- 2.5 (0.6, 5.7)
Japanese	462	4.8	+- 2.0 (2.8, 6.8)
Other	246	5.7	+- 2.8 (2.9, 8.5)
EDUCATION			
Eighth Grade or Less	110	2.7	+- 2.7 (-0.1, 5.4)
Some High School	115	8.4	+- 5.6 (2.8,14.1)
High School Graduate or GED Certificate	603	7.0	+- 2.2 (4.8, 9.2)
Technical School	84	11.3	+- 7.2 (4.1,18.5)
Some College	422	10.3	+- 3.2 (7.1,13.6)
College Graduate	342	5.0	+- 2.8 (2.2, 7.7)
Post Graduate or Professional Degree	178	4.2	+- 2.7 (1.5, 6.[illegible])
EMPLOYMENT STATUS			
Employed for Wages	1,139	7.4	+- 1.7 (5.7, 9.1)
Self Employed	169	14.8	+- 5.8 (9.0,20.6)
Out of Work	82	11.5	+- 8.6 (2.9,20.1)
Homemaker	105	1.6	+- 2.0 (-0.3, 3.6)
Student	60	4.5	+- 5.1 (-0.6, 9.6)
Retired	303	4.0	+- 2.3 (1.7, 6.3)
HOUSEHOLD INCOME			
Less than $10,000	176	5.3	+- 4.0 (1.3, 9.3)
$10,000 - $14,999	191	6.0	+- 3.3 (2.7, 9.2)
$15,000 - $19,999	182	9.2	+- 4.7 (4.6,13.9)
$20,000 - $24,999	216	6.2	+- 3.9 (2.3,10.1)
$25,000 - $34,999	319	7.3	+- 3.1 (4.3,10.4)
$35,000 - $49,999	300	8.2	+- 3.5 (4.7,11.7)
OVER $50,000	280	7.5	+- 3.1 (4.3,10.6)
MARITAL STATUS			
Married	1,069	6.3	+- 1.5 (4.8, 7.8)
Divorced	192	14.6	+- 6.1 (8.5,20.7)
Widowed	137	1.6	+- 1.9 (-0.4, 3.5)
Separated	44	15.5	+- 12.2 (3.3,27.7)
Never Married	371	8.5	+- 3.3 (5.3,11.8)
Member of an Unmarried Couple	45	4.0	+- 6.5 (-2.5,10.6)
TOTAL	1,860	7.2	+- 1.3 (5.9, 8.5)

Notes: [1] Chronic Drinking is defined as having 60 or more drinks during the past month.

[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.

[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 8
PREVALENCE OF DRINKING & DRIVING[1] BY DEMOGRAPHIC CHARACTERISTICS, STATE OF HAWAII, 1989

DEMOGRAPHIC CHARACTERISTIC	DRINKING & DRIVING		
	N[2]	Percent[3]	95% C.I.
SEX			
Male	884	5.2	+- 1.6 (3.5, 6.8)
Female	976	2.3	+- 1.1 (1.1, 3.4)
AGE			
18 - 24	215	5.4	+- 3.3 (2.1, 8.7)
25 - 34	467	6.1	+- 2.2 (3.9, 8.4)
35 - 44	454	3.6	+- 1.7 (1.8, 5.3)
45 - 54	243	2.9	+- 2.7 (0.2, 5.6)
55 - 64	210	0.6	+- 1.2 (-0.6, 1.7)
65+	271	0.0	
RACE			
Caucasian	705	5.4	+- 2.0 (3.4, 7.4)
Hawaiian/Part-Hawaiian	253	3.2	+- 2.3 (0.8, 5.5)
Filipino	194	1.2	+- 1.8 (-0.6, 3.0)
Japanese	462	2.8	+- 1.7 (1.1, 4.5)
Other	246	5.0	+- 3.3 (1.7, 8.2)
EDUCATION			
Eighth Grade or Less	110	0.0	
Some High School	115	1.8	+- 2.6 (-0.8, 4.4)
High School Graduate or GED Certificate	603	3.2	+- 1.7 (1.6, 4.9)
Technical School	84	9.3	+- 7.1 (2.2,16.4)
Some College	422	3.9	+- 1.9 (2.1, 5.8)
College Graduate	342	5.2	+- 3.0 (2.1, 8.2)
Post Graduate or Professional Degree	178	3.0	+- 2.9 (0.1, 5.8)
EMPLOYMENT STATUS			
Employed for Wages	1,139	4.1	+- 1.3 (2.8, 5.4)
Self Employed	169	4.1	+- 3.0 (1.2, 7.1)
Out of Work	82	5.4	+- 6.0 (-0.5,11.4)
Homemaker	105	0.7	+- 1.4 (-0.7, 2.1)
Student	60	7.4	+- 8.7 (-1.2,16.1)
Retired	303	1.1	+- 1.3 (-0.2, 2.4)
HOUSEHOLD INCOME			
Less than $10,000	176	1.6	+- 1.8 (-0.2, 3.3)
$10,000 - $14,999	191	2.2	+- 1.8 (0.5, 4.0)
$15,000 - $19,999	182	3.6	+- 3.3 (0.3, 6.9)
$20,000 - $24,999	216	4.2	+- 3.3 (0.9, 7.5)
$25,000 - $34,999	319	4.8	+- 3.0 (1.8, 7.8)
$35,000 - $49,999	300	3.9	+- 2.3 (1.6, 6.3)
OVER $50,000	280	4.2	+- 2.4 (1.8, 6.6)
MARITAL STATUS			
Married	1,069	2.4	+- 1.0 (1.4, 3.3)
Divorced	192	7.1	+- 4.9 (2.2,12.0)
Widowed	137	0.0	
Separated	44	7.5	+- 7.7 (-0.1,15.2)
Never Married	371	6.9	+- 3.0 (3.9,10.0)
Member of an Unmarried Couple	45	3.1	+- 6.0 (-2.9, 9.2)
TOTAL	1,860	3.7	+- 1.0 (2.7, 4.7)

Notes:
[1] Drinking and Driving is defined as driving after having too much to drink, one or more times during the past month.
[2] Unweighted sample size used as the denominator for each estimate. The total for each group may not equal 1860 because of a response of "refused" or "unknown" for that demographic variable.
[3] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 9
CHOLESTEROL AWARENESS BY SELECTED DEMOGRAPHIC CHARACTERISTICS STATE OF HAWAII, 1989

Demographic Characteristic	N[1]	Had Their Cholesterol Checked (%)[2]	Told Their Cholesterol Level (%)	Know Their Cholesterol Level (%)
Sex		(n.s.)	(n.s.)	(n.s.)
Female	976	53.2	35.0	19.4
Male	884	53.2	36.4	19.2
Age				
18 - 24	215	29.5	16.2	4.2
25 - 34	467	37.9	24.4	12.2
35 - 44	454	55.5	43.6	22.8
45 - 54	243	64.9	43.5	22.7
55 - 64	210	78.3	58.7	38.7
65+	271	79.5	45.3	28.1
Race				
Caucasian	705	55.2	40.9	24.4
Hawaiian/Part-Hawaiian	253	46.9	25.8	13.9
Filipino	194	44.5	23.9	5.3
Japanese	462	60.9	44.3	27.9
Others	246	50.5	31.9	13.3
Total	1,860	53.2	35.7	19.3

Notes:

[1] Unweighted Sample size used as the denominator for each estimate.

[2] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 10
PERCENTAGE OF WOMEN WHO HAD A SCREENING MAMMOGRAM AND WHEN THEY HAD IT, BY AGE STATE OF HAWAII, 1989

		When Had a Screening Mammogram		
Demographic Characteristic	N[1]	During the Past Year (%)[2]	1 - 2 Years Ago (%)	More Than 2 Years Ago (%)
Age				
18 - 34	332	6.5	2.5	1.4
35 - 39	113	28.5	6.6	2.6
40 - 49	160	43.6	10.0	7.4
50+	307	51.9	9.2	6.6
Total	912	28.1	6.1	4.0

Notes:

[1] Unweighted sample size used as the denominator for each estimate.

[2] All percents weighted to account for the age and race distribution of women in Hawaii and their probability of selection. Therefore, the results are representative of the total population of women for each age group.

TABLE 11
PERCENTAGE OF RESPONDENTS WHO OWN OR HAVE A FAMILY MEMBER WHO OWNS A TRUCK, BY DEMOGRAPHIC CHARACTERISTICS
STATE OF HAWAII, 1989

Demographic Characteristic	Own/Family Member Owns Truck	
	N[1]	Percent[2]
Sex (n.s.)		
Female	968	38.9
Male	879	38.9
Age		
18 - 24	215	38.3
25 - 34	465	43.2
35 - 44	454	36.5
45 - 54	241	44.5
55 - 64	207	38.7
65+	265	26.5
Race		
Caucasian	702	34.6
Hawaiian/Part-Hawaiian	252	62.7
Filipino	191	45.7
Japanese	458	35.8
Other	244	22.9
Total	1,847	38.9

Notes: [1] Unweighted sample size used as the denominator for each estimate.
[2] Percents weighted to be representative of the age, sex, and race distribution of Hawaii.

TABLE 12
PERCENT RESPONDENTS WHO HAVE A TRUCK BY HOW OFTEN THEY HAVE RIDERS IN TRUCK BED BY SELECTED DEMOGRAPHIC CHARACTERISTICS
STATE OF HAWAII, 1989

Demographic Characteristic	N[1]	Most Times (%)	Some Times (%)	Rarely (%)	Never (%)
Sex (n.s.)					
Female	349	5.7	15.2	39.4	38.3
Male	322	9.3	19.2	34.4	36.1
Age					
18 - 24	81	18.8	20.5	47.1	13.2
25 - 34	194	5.8	18.5	38.2	35.6
35 - 44	161	4.2	19.1	41.4	34.8
45 - 54	103	6.9	13.1	32.8	45.8
55 - 64	67	2.2	13.4	25.1	59.2
65+	65	5.3	15.2	27.5	48.8
Race					
Caucasian	218	4.7	11.2	36.2	45.6
Hawaiian/Part-Hawaiian	157	13.3	21.1	41.5	23.4
Filipino	85	10.2	26.3	31.1	31.3
Japanese	150	2.2	11.8	41.1	44.7
Other	61	9.6	21.0	26.6	40.5
Total	671	7.5	17.2	36.9	37.2

Notes: [1] Unweighted sample size used as the denominator for each estimate.
[2] All percents weighted to be representative of the age, sex, and race distribution of Hawaii.

NUTRITION BRANCH

SUMMARY

The Nutrition Branch is in the Health Promotion and Education Division. The promotion of optimal nutritional status and the reduction of risk of disease associated with diet through nutrition education, early detection and intervention is the goal of the Nutrition Branch. Nutrition is an essential component in the promotion of health, in the prevention of disease, and improving the quality of life.

The services of the Nutrition Branch include:

- Nutrition education for the public through talks, worksite programs and mass media.
- Nutrition screening and assessment.
- Consultations to agencies and individuals.
- Inspections of hospitals, other medical facilities, and adult residential care homes.

The numbers reached are shown in Table 1.

Accurate and current nutrition information is provided through pamphlets, news articles, talks at worksites, talks to community and student groups, workshops, exhibits at health fairs, T.V. and radio programs, and telephone calls.

Nutrition consultations and direct services are provided to programs within the department, other governmental agencies, community and professional groups, and the general public. The Public Health Nutritionists participate as members of a team for the licensure of hospitals, skilled nursing and intermediate care facilities, special treatment facilities and adult residential care homes to assure that dietary standards are met according to State and Federal regulations.

The Special Supplemental Food Program for Women, Infants and Children (WIC Program) funded by the United States Department of Agriculture is administered by the Nutrition Branch. Nutrition screening and assessment, nutrition education and nutritious foods are provided to low income pregnant women, nursing mothers, infants and children up to age 5, who are at nutritional risk. In 1989, the WIC Program provided food vouchers to an average of 13,432 participants each month. This was an increase of 13% as in the number of participants from 11,684 to 13,432. Nutrition assessment and diet counseling is ongoing and the total number of contacts was 161,187.

The WIC Program is participating in the Pediatric Nutrition Surveillance in cooperation with the Centers for Disease Control. Table 2 summarizes the prevalence of abnormal conditions in infants and children from birth to age 5 by counties.

TABLE 1
NUTRITION BRANCH SERVICES
STATE OF HAWAII, 1989

Type of Nutrition Services	Number	Number Reached or Participants
Nutrition Education		
Talks to community groups, including senior citizens	101	5,079
Talks to students	20	1,011
Workshops	19	235
Radio and TV	14	
Health Fairs	21	
Consultations and Inspections		
Care Homes Inspections	416	
Hospitals, Skilled Nursing Facilities and Intermediate Care Facilities Medicare Certifications	98	
Special Treatment Facilities Inspections	17	
Other Agencies and Individuals Consultations	1,696	
Department of Health Consultations	454	
Nutrition Assessment and Diet Counseling		
Special Supplement Food Program for Women, Infant and Children (WIC)	161,187 a/	

Note: a/ Participants receive nutrition assessment and diet counseling three or more times a year.

TABLE 2
HAWAII PEDIATRIC NUTRITION SURVEILLANCE
01/01/89 TO 12/31/89

	HT/AGE < 5TH			WT/HT < 5TH			WT/HT > 95TH		
COUNTY	EXAM	LOW	PCT	EXAM	LOW	PCT	EXAM	HIGH	PCT
Hawaii	2025	242	12.0	1954	71	3.6	1954	149	7.6
Oahu	8047	811	10.1	7963	331	4.2	7963	602	7.6
Kauai	366	60	16.4	362	19	5.2	362	24	6.6
Maui	868	117	13.5	850	33	3.9	850	66	7.8
STATE TOTAL	11306	1230	10.9	11129	454	4.1	11129	841	7.6

Table 2 (Cont.)

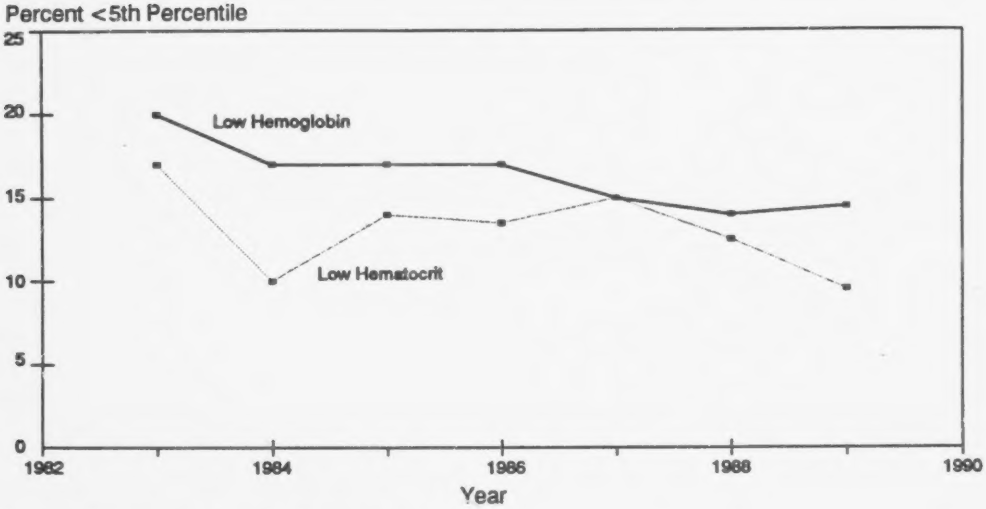
	LOW BIRTH WT			HGB/AGE < 5TH			HCT/AGE < 5TH		
COUNTY	EXAM	LOW	PCT	EXAM	LOW	PCT	EXAM	LOW	PCT
Hawaii	653	61	9.3	1443	222	15.4	873	53	6.1
Oahu	6699	711	10.6	5576	826	14.8	3300	336	10.2
Kauai	412	64	15.5	270	46	17.0	37	0	a/
Maui	371	27	7.3	706	62	8.8	15	3	a/
STATE TOTAL	8135	863	10.6	7995	1156	14.5	4225	392	9.3

Table 2 (Cont.)

COUNTY	TOTAL EXAMS
Hawaii	2116
Oahu	9095
Kauai	442
Maui	932
STATE TOTAL	12585

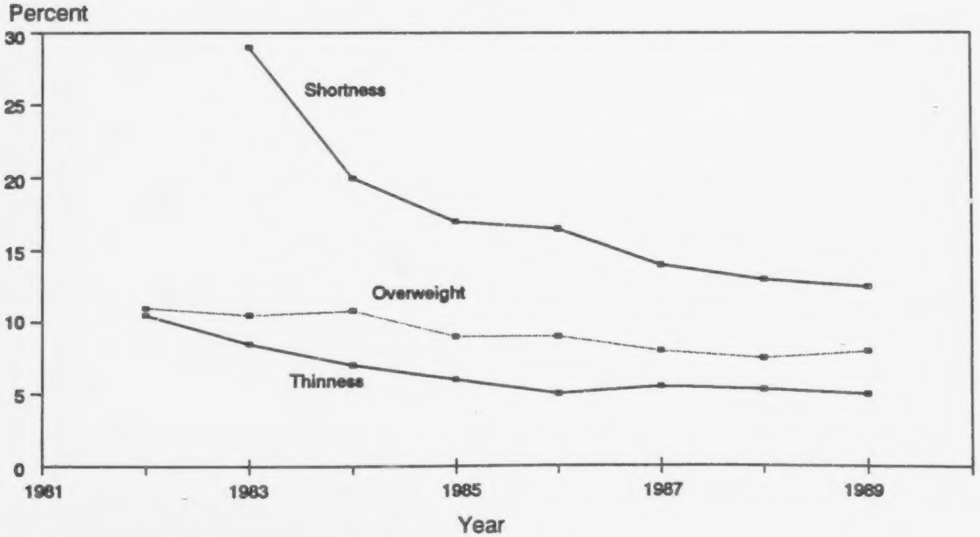
Note: a/ Value does not meet standards of reliability or precision.

FIGURE 1
1989 PEDIATRIC NUTRITION SURVEILLANCE
HEMATOLOGIC TRENDS
HAWAII



Source: Taken from a chart by the Nutrition Branch based on data from CDC/PEDNSS Table 11.

FIGURE 2
1989 PEDIATRIC NUTRITION SURVEILLANCE
ANTHROPOMETRIC TRENDS
HAWAII



Source: Taken from a chart by the Nutrition Branch based on data from CDC/PEDNSS Table 11.

SCREENING RESULTS

Table 1 shows the total number of persons screened and the new diabetics found, by age and sex. The overall number screened increased by 36.7% (10,311 to 14,697) from last year because of increased screening activities in the Branch including cholesterol screening.

Table 2 shows the rates of new diabetics by race and sex. Although the total is again lower this year from last year (4.17 vs 1.63), the Filipino and Japanese show the highest rates (3.07 and 2.12 respectively).

Table 3 shows the rate of new diabetics found by island. Hawai'i shows the highest rate (4.79) with the overall total number screened increased twofold.

Table 4 shows the results of blood pressure screening. The total number screened was less than half of last year's screening, probably because of the increased emphasis on cholesterol screening and the expanding number of other community resources for blood pressure screening. The percentage of abnormals referred, including new referrals, was essentially the same as in the previous fiscal year.

Table 5 shows the results of cholesterol screening. While the total number screened was almost 50% higher than last year, the number of normals increased, while both borderline and highs decreased, a desirable finding and, hopefully, a continuing trend.

Tables 6, 7, and 8 analyze the abnormal findings by race, age, and island, respectively. All percentages of abnormals showed a decrease by race (except in the Koreans, whose total number screened was too small to be significant). As in previous years, the Japanese and Chinese showed the highest number of abnormal levels, while the Hawaiians/Part-Hawaiians and Filipinos showed the lowest.

TABLE 1
DIABETES SCREENING SURVEY BY AGE AND SEX
JULY, 1988 - JUNE, 1989

				NEW DIABETICS					
	TOTAL SCREENED			NUMBER			RATE a/		
AGE	TOTAL	MALE	FEMALE	TOTAL	M	F	TOTAL	M	F
ALL AGES	14,697	6,025	8,672	24	12	12	1.63	1.99	1.38
UNDER 25	1,167	448	719	0	0	0	0.00	0.00	0.00
25-44	5,849	2,388	3,461	3	0	3	0.51	0.00	0.86
45-54	2,144	850	1,294	0	0	0	0.00	0.00	0.00
55-64	2,387	931	1,456	11	5	6	4.60	5.37	4.12
65-OVER	3,150	1,408	1,742	10	7	3	3.17	4.97	1.72

Note: a/ Number of new diabetics per thousand screenees.

TABLE 2
DIABETES SCREENING SURVEY BY ETHNICITY AND SEX
JULY, 1988 - JUNE, 1989

	TOTAL SCREENED			NEW DIABETICS					
				NUMBER			RATE a/		
ETHNICITY	TOTAL	MALE	FEMALE	TOTAL	M	F	TOTAL	M	F
Total	14,697	6,025	8,672	24	12	12	1.63	1.99	1.38
Japanese	5,178	1,948	3,230	11	6	5	2.12	3.08	1.54
Caucasian	4,051	1,820	2,231	4	2	2	0.98	1.09	0.89
Hawaiian/Part-Hawaiian	1,728	679	1,049	3	2	1	1.73	2.94	0.95
Chinese	883	398	485	1	0	1	1.13	0.00	2.06
Filipino	1,300	497	803	4	2	2	3.07	4.02	2.49
Korean	122	51	71	0	0	0	0.00	0.00	0.00
Puerto Rican	133	70	63	0	0	0	0.00	0.00	0.00
Other & Unspec.	1,302	562	740	1	0	1	0.76	0.00	1.35

Note: a/ Number of new diabetes per thousand screenees./

TABLE 3
DIABETES SCREENING SURVEY BY ISLAND
JULY 1, 1988 - JUNE 30, 1989

LOCATION	TOTAL SCREENED	NO. POSITIVE CHEMSTRIP	NEW DIABETICS	RATE PER 100 SCREENED
Oahu	8,884	52	3	0.33
Hawaii	4,167	88	20	4.79
Maui	915	1	0	0.00
Kauai	0	0	0	0.00
Molokai	248	1	0	0.00
Others	483	12	1	2.07
TOTAL	14,697	154	24	1.63

TABLE 4
BLOOD PRESSURE SCREENING
FY 1988 - 1989

SCREENED	NUMBER	PERCENT
Total Screened	1007	100.0
Total Abnormal Referred[a/]	248	24.6
New Referrals	200	19.8
Known Hypertensive Referrals	48	4.8
Total Normal Screened	759	75.4

Note: [a/] Abnormal Criteria is 140/90 or above.

TABLE 5
CHOLESTEROL SCREENING
FY 1988 - 1989

RESULT	NUMBER	PERCENT
Total Screened	15042	100.0%
Normal (under 200 mg/dl)	7656	50.9%
Borderline (200 - 239 mg/dl)	4598	30.6%
High (over 240 mg/dl)	2788	18.5%

TABLE 6
CHOLESTEROL SCREENING
ABNORMAL & HIGH RISK LEVELS BY RACE
FY 1988 - 1989

Ethnicity	Total Screened	Total Abnormal (>199 mg/dl)	Percent Total Abnormal	No. High (>239 mg/dl)	Percent High
All Ethnicities	15042	7386	49.1	2788	18.5
Japanese	5148	3072	59.7	1226	23.8
Filipino	1607	645	40.1	235	14.6
Chinese	987	467	47.3	163	16.5
Hawaiian/Part-Hawaiian	1930	782	40.5	283	14.7
Korean	167	88	52.7	33	19.8
Caucasian	4357	2018	46.3	767	17.6
Puerto Rican	150	67	44.7	20	13.3
Other	696	247	35.5	61	8.8

TABLE 7
CHOLESTEROL SCREENING BY AGE GROUP
BY TOTAL ABNORMAL LEVEL
FY 1988 - 1989

AGE GROUP	TOTAL SCREENED	TOTAL ABNORMAL >199 mg/dl	% ABNORMAL
Total	15042	7396	49.1
<20	657	51	7.8
20 - 39	5256	1605	30.5
40 - 59	5277	3066	58.1
60 - 74	3148	2249	71.4
75+	704	425	60.4

TABLE 8
CHOLESTEROL SCREENING
BY ISLAND, BY ETHNICITY, BY TOTAL ABNORMAL LEVEL
FY 1988 - 1989

	ALL ISLANDS			OAHU			HAWAII			MAUI		
	Total No.	Abnormal		Total No.	Abnormal		Total No.	Abnormal		Total No.	Abnormal	
Ethnicity	Screened	No.	%	Screened	No.	%	Screened	No.	%	Screened	No.	%
Total	15042	7386	49.1	9369	4091	43.7	4266	2558	60.0	917	501	54.6
Japanese	5148	3072	59.7	2897	1591	54.9	1775	1191	67.1	317	202	63.7
Filipino	1607	645	40.1	1056	362	34.3	353	185	52.4	74	36	48.6
Chinese	987	467	47.3	820	373	45.5	124	70	56.5	33	18	54.5
Hawaiian/ Part-Hawaiian	1930	782	40.5	1255	482	38.4	480	217	45.2	79	36	45.6
Korean	167	88	52.7	135	67	49.6	24	18	75.0	4	1	25.0
Caucasian	4357	2018	46.3	2555	995	38.9	1365	803	58.8	376	195	51.9
Puerto Rican	150	67	44.7	94	36	38.3	44	24	54.5	9	5	55.6
Other	696	247	35.5	557	185	33.2	101	50	49.5	25	8	32.0

TABLE 8 (Cont.)
CHOLESTEROL SCREENING
BY ISLAND, BY RACE, BY TOTAL ABNORMAL LEVEL
FY 1988 - 1989

	KAUAI			LANAI			MOLOKAI		
	Total No.	Abnormal		Total No.	Abnormal		Total No.	Abnormal	
Ethnicity	Screened	No.	%	Screened	No.	%	Screened	No.	%
All Races	78	44	56.4	164	100	61.0	248	92	37.1
Japanese	22	12	54.5	57	43	75.4	80	33	41.2
Filipino	18	10	55.6	75	36	48.0	31	16	51.6
Chinese	1	0	0	2	0	0	7	6	85.7
Hawaiian/Part-Hawaiian	24	15	62.5	16	11	68.8	76	21	27.6
Korean	0	0	0	3	2	66.7	1	0	0
Caucasian	6	3	50.0	10	7	70.0	45	15	33.3
Puerto Rican	2	2	100.0	0	0	0	1	0	0
Other	5	2	40.0	1	1	100	7	1	14.3

STATE HYPERTENSION PROGRAM

SUMMARY

Hypertension is a major risk factor of cardiovascular disease, the leading cause of death in the nation and in Hawai'i. The mission of the State Hypertension Program (SHP) is to decrease blood pressures, increase the number of known hypertensives with controlled blood pressures and to prevent morbidity and mortality due to strokes and hypertension-related disease of the heart and kidneys. SHP receives funding from the Preventive Health Services Block Grant and was administered by the Public Health Nursing Branch from May, 1980 through August, 1988. Effective September 1, 1988 the SHP has been administered under the Preventive Health Services Branch.

The SHP organized the Hawai'i State Coordinating Council in High Blood Pressure Control in 1986 and continues to head this diversely representative group of 55 members. Council members have been serving as the High Blood Pressure Control Task Force for the 1990 Objectives.

In FY '88 the SHP coordinated activities of a comprehensive blood pressure control system with 52 agencies throughout the State. Together, these agencies provided a total of 18,271 blood pressure tests, screening an estimated 14,802 individuals. The SHP reached a total of 568 lay people and professionals in 34 educational sessions on hypertension and related diseases. A total of 932 firefighters were certified in blood pressure testing activities in 102 training sessions. They, in turn, conducted a total of 8,014 blood pressure tests. All 70 firestations, statewide, are participating in this nationally recognized blood pressure control program.

The addition of a 50% time public health nurse on the Island of Hawai'i in January 1989 resulted in a 71.4% increase in the number of persons receiving blood pressure screening services and a follow up system is now in place. Training and education, and overall coordination of services between agencies has greatly improved.

Table 1 shows the result of 52 agencies working in collaboration with the SHP. The number of blood pressure tests given and the number of individuals served have remained relatively consistent from last year.

Table 2 summarizes the prevalence, treatment, and control data from the 18,271 individuals screened. The prevalence of hypertension in Hawaii's adults is estimated to be between 35 to 37% (this is based on data from the Program's screening activities, which is not a random screening), compared to an estimate of 22% in the random interviews of the Behavioral Risk Factor Surveillance System.

Table 3 reflects the training and education activities of the program reaching health professionals, the lay public, and firefighters who were also certified as blood pressure screeners. A total of 2,660 individuals were reached in 172 sessions. There has been an increase of 1,690 (87%) individuals reached in 54 (46%) more sessions. This shows a trend toward increased activities in training, education and blood pressure certification.

PREVENTIVE HEALTH SERVICES BRANCH

TABLE 1
GENERAL BLOOD PRESSURE SCREENING AND FOLLOW UP SERVICES PROVIDED BY PARTICIPATING AGENCIES
FISCAL YEAR 1989

Number of Blood Pressure Tests Given	Number of Individuals Served	Number Receiving Follow Up
18,271	14,802	3,039

TABLE 2
BLOOD PRESSURE CONTROL STATUS OF HAWAII'S PEOPLE
FISCAL YEAR 1989

CONTROL	1989a/	1988	1987
Prevalence of Hypertension	36.1%	36.1%	37.6%
Hypertensives on Treatment	74.5%	74.5%	72.6%
Hypertensives with Controlled Blood Pressure	38.6%	38.6%	39.1%

Note: a/ Estimate.

TABLE 3
STATE HYPERTENSION PROGRAM ACTIVITIES
FISCAL YEAR 1989

Activities	Number of Groups Reached	No. Individuals Reached
Training and Education:		
Professional Education	21	149
Public Education	20	977
Health Fairs	6	987
Blood Pressure Certification:		
Firefighters	75	1399
Other	30	173
Total	152	3685

COMMUNICABLE DISEASE DIVISION

SUMMARY

This Communicable Disease Division is the primary focus for infectious disease surveillance and control, including facilitating immunizations.

During 1989 it was reorganized, largely in response to the rapidly expanding AIDS epidemic. Due to analogies between AIDS and syphilis in methods of transmission and population groups at risk, AIDS control activities and staff were merged with existing Sexually Transmitted Disease staff (moved out of the Epidemiology Branch) to form a new administrative group named the STD/AIDS Prevention Branch. The Branch headquarters were moved to space available on Sunset Avenue, near the STD Clinic at the Diamond Head Health Center.

Other structural changes have been:

1) recognition of epidemiologic, risk group, and control method similarities between the Tuberculosis Branch and the Hansen's Disease Community Program; these are being consolidated into a single branch, named the Tuberculosis/Hansen's Disease Control Branch;

2) consolidation of long-term care facilities for care of the remaining Hansen's Disease patients at Kalaupapa and at Hale Mōhalu at Lē'ahi into the Hansen's Disease Institutional Services Branch.

Statistical reports for these four branches follow.

EPIDEMIOLOGY BRANCH

INFECTIOUS DISEASE SUMMARY

Vaccine Preventable Diseases

Measles - The most important vaccine preventable disease in 1989 was measles because of its dramatic increase throughout the country. Hawai'i also saw more indigenous cases in 1989 than 1988, 23 versus 3. The continuing problem with measles will result in the U.S. initiating a 2 dose vaccination policy in 1990.

Rubella, Mumps - Rubella decreased from 1988 levels; 13 in 1989 versus 33 in 1988. Mumps cases were about the same; 20 in 1989, 18 in 1988.

Diphtheria, Pertussis, Tetanus - There were 29 pertussis cases in 1989, compared to 50 in 1988. There were no outbreaks of pertussis in 1989, while there had been in 1987.

Hepatitis A - There were more reports of hepatitis A in 1989 than in any previous year. Three large outbreaks contributed to this record number; all occurred in likely settings for a hepatitis A outbreak. One outbreak centered in a hospital neonatal intensive care unit, resulting in 37 cases among infants and medical staff. A second outbreak occurred among drug users, involving about 15 cases. A third outbreak revolved around a day care center, resulting in about 30 cases over a 2 month period.

Hepatitis B - Sixty-eight cases of acute hepatitis B were reported in 1989. In addition, the Hepatitis B Perinatal Program registered 198 additional carrier mothers. Two-hundred fifty-nine newborn infants received hepatitis B vaccination. Four-hundred eighty household contacts to the carrier mothers were also identified.

Zoonoses

Leptospirosis - Thirty-five cases of leptospirosis were reported to the Department of Health in 1989 (Figure 3). This compares with the 71 cases diagnosed in 1988, when the Department of Health was conducting active surveillance research on Kaua'i and Hawai'i. The active surveillance in 1988 in Hawai'i and Kaua'i showed a five-fold increase in the number of cases diagnosed, versus the average number of cases reported from each island over the previous four year period. Included in the 1989 total were cases transferred from American Samoa and Kosrae (Federal States of Micronesia) for medical treatment in Honolulu. There was one fatality from the island of Hawai'i. The Department is working in conjunction with the University of Hawai'i School of Medicine to establish a Leptospirosis Reference Laboratory in Hawai'i during FY-1991, as the demand for reference laboratory services is increasing both here and from neighboring Pacific island nations.

Salmonellosis - There were 368 culture-confirmed cases of salmonellosis reported by the Department of Health Laboratory in 1989, a decrease of 26% from the 499 cases reported in 1988, reflecting the lack of Salmonella outbreaks reported during the year.

Rabies - In 1989, 11 people with possible rabies exposure were investigated. This compares with four in 1988. Nine were residents of the State. Seven were male and four were female. Age ranged from 5 to 67 years. Five were tourists, 2 were airport ramp agents, and 1 each was a missionary, seaman, diplomat, and a child. Three were bitten on O'ahu; 2 by a monkey. Another was bitten by a dog in Los Angeles. The remaining 7 were exposed in rabies endemic countries; 2 in Thailand, and 1 each in Sri Lanka, Bali, India, Puerto Rico and Peru. Six of the 11 received rabies prophylaxis.

Toxoplasmosis - Eleven cases of toxoplasmosis were reported in 1989, compared to 1 case in 1988.

Trichinosis - Two cases of trichinosis, both from the island of Hawai'i, were reported in 1989.

Infectious Disease Summary (Cont.)

Vector-Borne Diseases

Lyme disease - A case of Lyme disease was reported in Hawai'i in a 24 year-old female military dependent. She was probably exposed in Okinawa. Hawaii is free of endemic Lyme disease, as the known tick vectors and wildlife reservoirs of the disease are not present in the State.

Dengue - There was one reported imported dengue case.

Murine typhus - There were also two cases of Murine typhus, 1 from Kaua'i and 1 from Maui, both known reservoirs of this infection.

FIGURE 1
CASES OF COMMUNICABLE DISEASE
1970 - 1989

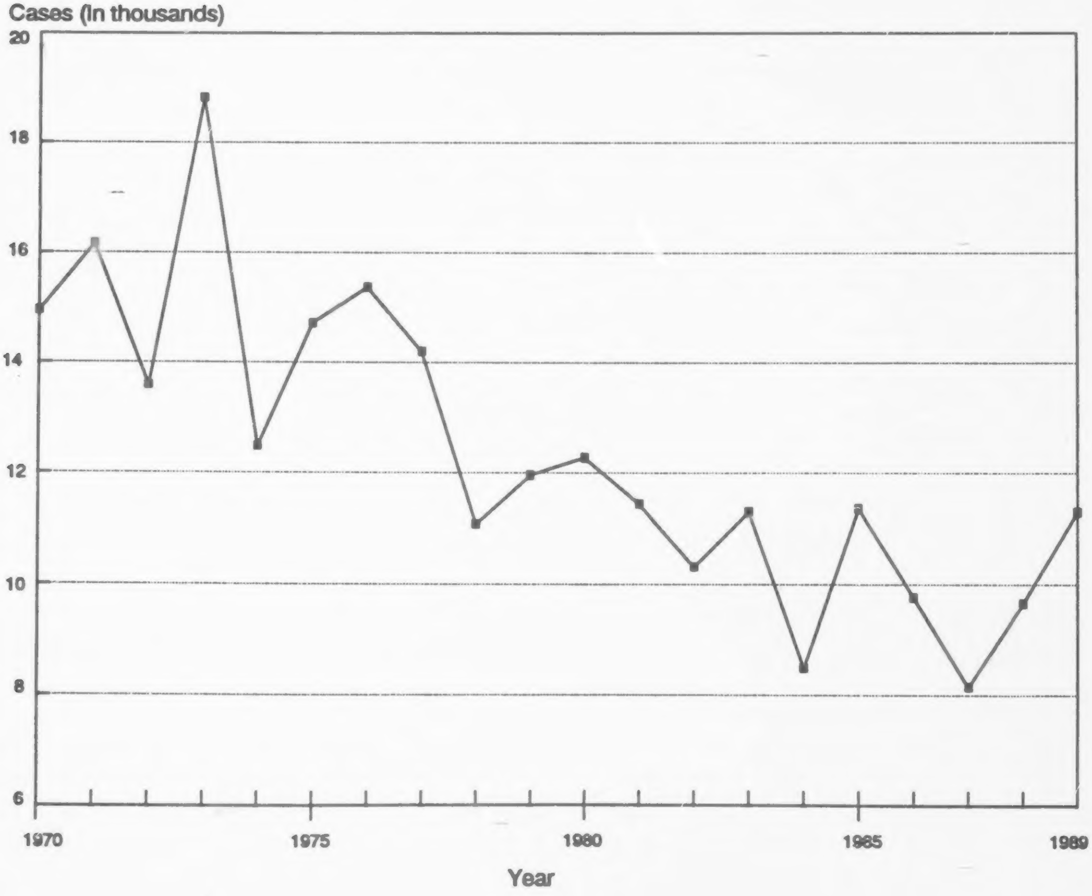


TABLE 1
NUMBER OF CASES AND DEATHS FROM COMMUNICABLE DISEASES
1985 - 1989

YEAR	1985		1986		1987		1988		1989a/
POPULATION	1,053,900		1,062,300		1,082,502		1,096,200		1,112,100
DISEASE	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases
Total	11,358	42	9,762	39	8,152	71	9,657	62	11,301
AIDS b/	43	40	79	63	104	80	140	76	127
Amebiasis	6	-	10	-	-	-	1	-	-
Brucellosis	-	-	1	-	-	-	-	-	-
Campylobacter									66
Chancroid	-	-	-	-	-	-	-	-	1
Chickenpox	1,494	-	1,386	-	1,484	-	840	-	2,211
Conjunctivitis, infectious	157	-	185	-	52	-	64	-	-
Dengued/									1
Diphtheria	-	-	-	-	1	-	-	-	-
Fish poisoning, ciguatera									70
Fish poisoning, scombroid									11
Gastroenteritis, foodbornec/									31
Gonorrhea	2,162	-	1,619	-	1,159	-	875	-	760
Hansen's disease	31	-	37	-	25	-	20	-	18
Hepatitis A	109	-	14	-	37	-	21	1	166
Hepatitis B	135	4	77	2	68	8	95	2	68
Hepatitis non-A, non-B	10	-	6	-	2	-	7	-	6
Hepatitis unspecified	6	3	4	-	3	5	4	1	10
Influenza	1,009	-	316	3	332	5	660	-	1636
Kawasaki disease									29
Legionellosis									3
Leptospirosis	13	1	15	-	24	-	67	-	69
Lymphogranuloma venereum	-	-	-	-	-	-	-	-	-
Malaria d/	17	-	1	-	3	1	10	-	8
Measles (Rubeola)	31	-	37	-	5	-	17	-	29
Meningitis, aseptic & viral	137	-	192	-	104	-	134	-	144
Meningitis, H. influenza	21	-	27	-	22	-	27	-	32
Meningitis, meningococcal	9	-	3	-	11	-	9	-	4
Meningitis, other									19
Meningococcal infections, other than meningitis									2
Mononucleosis, infectious	58	-	38	-	9	-	39	-	-
Mumps	19	-	24	-	12	-	24	-	20
Pertussis	24	-	51	-	245	-	50	-	29
Poliomyelitis	-	-	-	-	-	-	-	-	-
Rubella	44	-	8	-	32	-	33	-	13
Rubella, congenital	-	-	-	-	-	-	-	-	-
Salmonellosis	337	-	428	1	475	-	508	-	371
Scarlet fever & other strep infections	5,036	-	4,892	-	3,620	-	5,671	-	5,085
Shigellosis	138	-	81	-	79	-	61	-	68
Syphilis, primary & secondary	88	-	38	-	28	-	47	-	18
Syphilis, early latent	30	-	10	-	21	-	51	-	22
Syphilis, late & late latent	5	-	8	-	15	-	24	-	35
Tetanus	3	-	-	-	1	-	-	-	-
Trichinosis	1	-	7	-	-	-	-	-	-
Tuberculosis	189	8	180	6	195	11	171	15	189
Typhoid fever	5	-	8	-	8	-	6	-	9
Typhus, murine	2	-	1	-	2	-	7	-	2

Notes:

a/ Deaths are reported on Table 2.

b/ Previous year data retrospectively updated by year of diagnosis to include cases reported late. Deaths are allocated back to the year of initial diagnosis to show case fatality. Deaths reported in this table do not match AIDS deaths by year of death as shown in TABLE 2 and in the Vital Statistics section of the report.

c/ Two incidents were lab confirmed, the remainder were probable cases. The incidents involve 2 or more persons.

d/ Imported cases.

TABLE 2
SELECTED COMMUNICABLE DISEASES
1989

DISEASE	CASES	CASE RATE a/	DEATHS
All reportable diseases	11,301	10.2	99
AIDS	127 b/	0.1	72 c/
Chickenpox	2,211	2.0	0
Gonorrhea	760	0.7	0
Hansen's Disease	18	<0.1	1
Hepatitis, all types	250	0.2	5
Influenza	1,638	1.5	1
Legionellosis	3	<0.1	2
Leptospirosis	69	0.1	1
Malaria	8	<0.1	0
Measles (Rubeola)	29	<0.1	0
Meningitis, all types	199	0.2	9
Meningococcal infections, other than meningitis	2	<0.1	1
Mumps	20	<0.1	0
Rubella	13	<0.1	0
Salmonellosis	371	0.3	0
Scarlet fever, other strep	5,085	4.6	3
Syphilis	18	<0.1	0
Tuberculosis	189	0.2	4
All others	317 d/	0.3	0

NOTES:

a/ Rate per 1,000 resident population.

b/ Number of AIDS cases by date of diagnosis, where the diagnosis of AIDS had not been previously made outside of Hawaii; as reported to the AIDS Surveillance Program.

c/ The number of deaths reported in 1989 due to AIDS as the underlying cause of death, regardless of where the diagnosis had first been made; as reported on death records to the Vital Records Registration.

d/ Includes 31 incidents of gastroenteritis involving 2 or more persons.

STD/AIDS PREVENTION BRANCH

SEXUALLY TRANSMITTED DISEASES SUMMARY

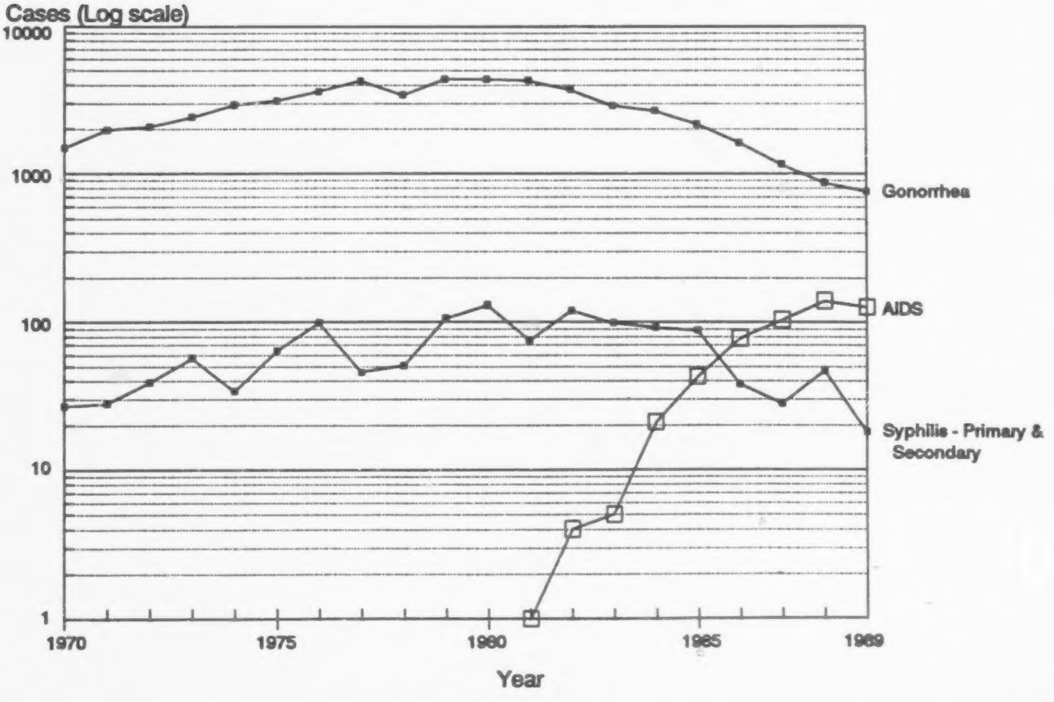
There were 760 gonorrhea cases reported for calendar year 1989. This is the ninth consecutive year Hawai'i has recorded a decrease in the total number of gonorrhea cases reported. The gonorrhea case rate of 68.3 cases per 100,000 population is lower than the case rate reported in 1970 and far exceeds the National 1990 Objective of 280 cases per 100,000 population. The continued large decrease in male gonorrhea cases (primarily in male homosexuals) has resulted in a leveling off of the proportion of male to female gonorrhea cases. Sixty-two (62) percent of the total gonorrhea cases reported in 1989 were in men.

There were 53 Penicillinase-producing Neisseria gonorrhoeae (PPNG) reported in 1989. Almost all of these cases were either directly imported by travelers from the Far East or were epidemiologically linked to the Far East, indicating little endemic spread of PPNG in Hawai'i.

There were 40 infectious syphilis cases reported in 1989. This is the lowest number reported for the past twenty years. The 18 primary and secondary syphilis cases reported represents a case rate of 1.6 cases per 100,000 population. As a comparison, the National 1990's Objective for primary and secondary syphilis is 7 cases per 100,000 population.

Hawai'i reported 127 new AIDS cases in Calendar Year 1989. The cumulative total number of AIDS cases reported in Hawai'i through 1989 is 524, of which 341 are known to have died.

FIGURE 1
SELECTED STD/AIDS CASES
1970 - 1989



STD/AIDS PREVENTION BRANCH

TABLE 1
SEXUALLY TRANSMITTED(ST) DISEASE CASES REPORTED TO THE DEPARTMENT OF HEALTH BY DIAGNOSIS AND SOURCE OF REPORT
1989

TYPE OF DISEASE		TOTAL	PRIVATE PHYSICIANS, HOSPITALS AND INSTITUTIONS	PUBLIC CLINICS, HOSPITALS AND INSTITUTIONS	MILITARY
Total Cases	Number	835	285	272	278
	Percent	100	34	33	33
Syphilis:					
Primary and Secondary		18	1	10	7
Early Latent		22	4	37	11
Late and Late Latent		35	22	6	7
Gonorrhea		760	258	249	253
Other ST Diseases		–	–	–	–

TABLE 2
TOTAL GONORRHEA CASES BY AGE
1984 - 1989

AGE IN YEARS	YEAR					
	1984	1985	1986	1987	1988	1989
Total All Ages	2664	2162	1619	1159	875	760
0 - 14	12	6	8	7	3	4
15 - 19	337	377	272	166	158	141
20 - 24	1032	842	606	387	334	277
25 - 29	586	419	339	262	170	165
30 - 34	288	198	176	135	95	65
35 - 39	162	109	83	68	45	36
40 - 44	66	52	39	40	22	20
45 - 49	23	13	11	11	2	3
50 and Over	41	26	11	14	8	11
Unknown	117	120	74	69	38	38

TABLE 3
NUMBER AND RATE PER 100,000 POPULATION OF TOTAL REPORTED GONORRHEA CASES
1970 - 1989

YEAR	AGE GROUP					
	15 - 19 Years			20 - 24 Years		
	Cases	Populationa/	Rateb/	Cases	Populationa/	Rateb/
1970	264	71,993	366.7	712	81,732	871.1
1971	383	75,600	506.6	888	87,900	1,010.2
1972	365	78,800	463.2	925	91,000	1,016.5
1973	482	81,500	591.4	987	94,000	1,050.0
1974	576	83,200	692.3	1,209	96,200	1,256.8
1975	649	84,700	766.2	1,279	98,800	1,294.5
1976	719	86,200	834.1	1,360	100,300	1,355.9
1977	733	86,400	848.4	1,633	101,800	1,604.1
1978	510	86,400	590.3	1,269	103,700	1,223.7
1979	711	86,900	818.2	1,714	105,200	1,629.3
1980	620	86,446	717.2	1,758	105,682	1,663.5
1981	548	87,900	623.4	1,761	107,500	1,638.1
1982	472	89,300	528.6	1,441	109,200	1,319.6
1983	359	91,700	391.5	1,056	112,100	942.0
1984	337	93,000	362.4	1,032	113,800	906.9
1985	377	94,400	399.4	842	115,500	729.0
1986	272	95,100	286.0	606	116,400	520.6
1987	166	96,900	171.3	387	118,600	326.3
1988	158	98,300	160.7	334	120,300	277.6
1989	141	99,500	141.7	277	121,800	227.4

Notes: Notes are at the bottom of the table.

TABLE 3 (Cont.)
NUMBER AND RATE PER 100,000 POPULATION OF TOTAL REPORTED GONORRHEA CASES
1970 - 1989

YEAR	AGE GROUP					
	25 - 29 Years			All Ages		
	Cases	Populationa/	Rateb/	Cases	Populationa/	Rateb/
1970	223	59,583	374.3	1,494	769,913	194.0
1971	326	62,500	521.6	1,975	801,000	246.6
1972	363	68,200	532.3	2,080	828,000	251.2
1973	488	72,200	675.9	2,408	851,000	283.0
1974	549	76,400	718.6	2,923	867,000	337.1
1975	646	81,000	797.5	3,126	884,000	353.6
1976	798	86,100	926.8	3,591	902,000	398.1
1977	940	87,400	1,075.5	4,256	916,000	464.6
1978	737	89,600	822.5	3,409	929,000	367.0
1979	908	92,700	979.5	4,373	950,000	460.3
1980	870	95,287	913.0	4,383	964,691	454.3
1981	892	96,900	920.5	4,289	980,900	437.3
1982	808	98,400	821.1	3,706	996,700	371.8
1983	649	101,100	641.9	2,886	1,023,200	282.1
1984	586	102,600	571.2	2,664	1,038,730	256.5
1985	419	104,100	402.5	2,162	1,053,900	205.1
1986	339	104,900	323.2	1,619	1,062,300	152.4
1987	262	106,900	245.1	1,159	1,082,500	107.1
1988	170	108,400	156.8	875	1,098,200	79.7
1989	165	109,800	150.3	760	1,112,100	68.3

Notes:

a/ Population data is an estimated total resident population based on figures taken from the 1980 census, which includes Armed Forces and their dependents in Hawaii, and residents temporarily absent, and excludes visitors present.

b/ The reported rates per 100,000 per year of Gonorrhea by selected age groups in Hawaii, according to their numerical ranking order are: 1) 20 - 24 years; 2) 25 - 29 years; and 3) 15 - 19 years.

TABLE 4
HAWAII RESIDENT GONORRHEA (GC) MORBIDITY BY YEAR (1975 - 1989), CASE RATE PER 100,000 POPULATION, BY SEX, AND RESISTANCE TO PENICILLIN

YEAR	POPULATIONa/	TOTAL GC	RATE GCb/	FEMALE GC	MALE GC	%MALE GC	TOTAL PPNGc/
1975	884,000	3,126	353.6	1,209	1,917	61%	-
1976	902,000	3,591	398.1	1,285	2,306	64%	10
1977	916,000	4,256	464.6	1,533	2,723	64%	22
1978	929,000	3,409	367.0	1,164	2,245	66%	26
1979	950,000	4,373	460.3	1,400	2,973	68%	63
1980	964,691	4,383	454.3	1,381	3,002	68%	162
1981	980,900	4,289	437.3	1,259	3,030	71%	184
1982	996,700	3,706	371.8	1,157	2,549	69%	99
1983	1,023,200	2,886	282.1	1,014	1,872	65%	93
1984	1,038,730	2,664	256.5	920	1,744	65%	113
1985	1,053,900	2,162	205.1	872	1,290	60%	110
1986	1,062,300	1,619	152.4	684	935	58%	95
1987	1,082,500	1,159	107.1	505	654	56%	78
1988	1,098,200	875	79.7	356	519	59%	56
1989	1,112,100	760	68.3	290	470	62%	53

Notes: a/ Source: Hawaii State Department of Planning and Economic Development, "The Population of Hawaii, 1980: Final Census Results" Statistical Report 143, March 18, 1981.

b/ Rate per 100,000 per year.

c/ Abbreviation for Pencillinase-producing Neisseria gonorrhoeae, the penicillin-resistant form of gonorrhea.

TABLE 5
TOTAL PRIMARY AND SECONDARY SYPHILIS CASES BY AGE
1984 - 1989

AGE IN YEARS	YEAR					
	1984	1985	1986	1987	1988	1989
All Ages	92	88	38	28	47	18
0 - 14	–	–	–	–	–	–
15 - 19	7	4	2	–	4	1
20 - 24	25	16	7	3	16	7
25 - 29	23	23	9	9	10	5
30 - 34	11	16	6	5	9	3
35 - 39	8	16	4	3	4	–
40 - 44	10	5	3	5	2	–
45 - 49	4	4	1	2	–	2
50 and Over	4	2	4	1	–	–
Unknown	–	2	2	–	2	–

TABLE 6
HAWAII INFECTIOUS SYPHILIS MORBIDITY TREND BY YEAR (1977 - 1989) AND SEX

YEAR	P & Sa/	ELb/	TOTAL	FEMALES	MALES	%MALES
1977	46	37	83	13	70	84%
1978	51	34	85	11	74	87%
1979	106	69	175	12	163	93%
1980	131	74	205	7	198	97%
1981	75	47	122	6	116	95%
1982	120	66	186	9	177	95%
1983	99	47	146	15	131	90%
1984	92	54	146	28	118	81%
1985	88	30	118	25	93	79%
1986	38	10	48	10	38	79%
1987	28	21	49	16	33	67%
1988	47	51	98	31	67	68%
1989	18	22	40	10	30	75%

Notes: a/ P & S - Primary and secondary stage of syphilis are the infectious stages of syphilis when the lesions are present.
b/ Early Latent stage of syphilis is any early stage of syphilis under one year's duration.

TABLE 7
HAWAII ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) REPORTED BY YEAR OF DIAGNOSIS, SEX, AND NUMBER OF KNOWN DEATHS
1981 - 1989

YEAR	TOTAL AIDSa/	MALES	FEMALES	KNOWN DEATHb/
1981	1	0	1	1
1982	4	4	0	4
1983	5	5	0	5
1984	21	20	1	18
1985	43	43	0	40
1986	78 c/	74 c/	4	63 c/
1987	104	101	3	82
1988	140 c/	135 c/	5	76 c/
1989	127	124	3	52
TOTAL	523	506	17	341

Notes: a/ 1989 Statistical Report Data retrospectively updated to include cases reported late by year of diagnosis.
b/ Deaths are allocated back to the year of initial diagnosis.
c/ 1 Pediatric case included.

Source: AIDS Surveillance Program, Department of Health.

TUBERCULOSIS/HANSEN'S DISEASE CONTROL BRANCH

TUBERCULOSIS SUMMARY

Tuberculosis epidemiology in the United States has changed since the mid-1980's. The annual decline in the tuberculosis rate plateaued, and some years even saw slight increases in the number of cases of tuberculosis. This change probably results from a number of factors. Among them are the Human Immunodeficiency Virus epidemic, the increasing number of elderly in the population, the increase in drug abuse, and an increase in the number of disadvantaged citizens, e.g. homeless. Some of these factors are playing a role in Hawaii's tuberculosis picture, though to a lesser extent than in other parts of the country. The primary determinant of the tuberculosis rate in the State continues to be immigration. The foreign-born population accounts for the majority of tuberculosis cases.

There were 189 new cases of tuberculosis in 1989, an increase of 10.5% from the 171 cases reported the previous year. As shown in Tables 1A and 1B, the foreign-born population contributed 144 of the 189 cases or 76.2% of the total. The majority of immigrants to Hawai'i come from countries with very high prevalence rates for tuberculosis. In 1989, 99 cases (52.4% of the total, 68.8% of the foreign-born) occurred in individuals born in the Philippines. The next largest group was from Korea (13 cases, 9.2% of the foreign-born) followed by China (including the People's Republic of China, the Republic of China and Hong Kong, 6 cases, 4.2% of the foreign-born) and Japan (6 cases, 4.2% of the foreign-born).

The incidence rate for the State was 17.2 per 100,000 population as compared to the 15.8 per 100,000 in 1988. The 1989 rate for the United States is not yet available, but will be approximately 9.0 per 100,000. As shown in Table 1A, the incidence rate was 99.3 per 100,000 for the foreign-born population of Hawai'i. In contrast, the rates were 5.0 per 100,000 for Hawaii-born residents and 3.4 per 100,000 for those born in other parts of the United States.

The effect of the foreign-born population is also seen in the incidence of resistance to the standard antituberculosis drugs. In 1987 and 1988, 36 of 237 (15.2%) isolates of Mycobacterium tuberculosis were resistant to one or more drugs; 28 of these 36 (77.7%) were from foreign-born cases including 16 (44.4%) from the Philippines and 9 (25.0%) from Korea.

Table 1B gives the breakdown of cases according to age. The median age group for all cases is 50-59 years. Sixty-six of the 189 cases (34.9%) were age 60 years or older. In the foreign-born population, the median age group was 40-49 years and 29.9% were age 60 years or older. Among the 36 Hawaii-born cases, the median age group was 60-69 years and 21 of the cases (58.3%) were age 60 years or older. Thus tuberculosis among the foreign-born occurs in a younger population, while the increasing age of Hawaii's population has resulted in more tuberculosis in the older age groups. Among those foreign-born who have been in Hawai'i for more than 5 years, 23 of 55 (41.8%) of the cases occurred in those age 60 and older. Thus the pattern in this group is intermediate between the more recently arrived immigrants and those who were born here.

O'ahu had 76.4% of the population and produced 83.1% of the cases (Table 2). The incidence rate on Maui was the highest among the neighbor islands, with a rate almost identical to Oahu's.

As shown in Table 3, 16.9% of the cases were extrapulmonary. This is very similar to the rates in previous years and is consistent with national trends which have shown a relatively constant percentage of extrapulmonary cases.

The age distribution of cases is shown in Table 1. There were three cases in children below 10 years of age, an increase from the one case in 1988. One of the children was born in the Philippines, one was from Mexico, and one child was born in Hawai'i. A low level of infection in young children is a mark of effective tuberculosis control.

The Tuberculosis Control Program provides comprehensive services for case detection, treatment, prevention, and monitoring and epidemiologic analysis of cases for tuberculosis. Prevention is the primary focus of the Program. An overview of services provided is given in Table 4. More than 29,000 tuberculin skin tests were given by Tuberculosis personnel and over 38,000 skin tests were given by Public Health Nursing Branch nurses working in cooperation with the Tuberculosis Program, for a total of more than 67,000 skin tests during the year. There was a reduction of nearly 50% in the number of survey X-rays done between 1985 and 1988, concomitant with institution of skin testing as the primary screening modality for all clients. More than 22,000 chest X-rays were taken overall, including more than 15,000 survey chest X-rays overall.

Also shown in Table 4 are the 250 individuals who started multidrug therapy for proven or suspected active tuberculosis and the almost 2,100 individuals who started preventive therapy.

Tables 5 and 6 reflect the results of all the screening activities. The Tuberculosis Control Program found 91 cases (48.1%) while 76 cases (40.2%) were detected in the community, including 67 reported by physicians and 9 reported by community hospitals, and 13 cases (6.9%) were reported by military facilities.

Of the 189 cases, 99 cases were detected through one of the Tuberculosis Program screening programs. This includes 30 immigrants who initially entered the State with a Class A Visa and 12 immigrants who entered with a Class B Visa. Others were self-referred, referred for evaluation by private physicians, or required tuberculosis clearance to comply with State law, e.g. for work or for school.

Because of the high incidence rate in the foreign-born population, the Program continues to direct special attention to this group, including an Outreach Program directed primarily toward the Filipino and Korean communities. This program focuses on culturally based care, including assistance with language, assistance in adapting to the American health care system, and a variety of measures to help patients follow the physician's and nurse's instructions to insure optimal care for tuberculosis.

The widespread use of drug treatment of tuberculosis beginning in the 1950's and the introduction of new drugs in subsequent years dramatically reduced the need for inpatient care. Such care is still required for small numbers of patients, such as those who are too ill to remain at home, those who present an unusual risk of transmitting the disease to others, and those requiring special drug treatment regimens.

Lē'ahi Hospital maintains 13 beds for these complicated tuberculosis cases. These beds produced 1630 bed days of occupancy during 1989. In contrast, there were 20,785 outpatient visits to the Tuberculosis Clinic at the Lanakila Health Center and 645 visits to the outpatient clinic at Lē'ahi Hospital during the year.

Tuberculosis remains a significant public health problem for the State and continues to present challenges. Our tuberculosis rate will continue to be determined to a great extent by immigration patterns. Many immigrants come from countries where resistance to the standard drugs is common. The epidemic of Human Immunodeficiency Virus infection and the increasing number of elderly residents can also be expected to increase the incidence of tuberculosis. In the face of these challenges and recent resurgence of this ancient disease, the Tuberculosis Control Program continues to provide effective and efficient services for the control of tuberculosis.

TABLE 1A
TUBERCULOSIS INCIDENCE RATE
1989

PLACE OF BIRTH	TOTAL	RATEa/
Hawaii born	716,026	5.0
Mainland born	237,211	3.4
Foreign bornb/	114,962	99.3

Notes: a/ Rate is cases per 100,000 total civilian population . The rates presented here are estimates.
b/ Foreign born includes people coming to Hawaii from both American and Western Samoa.

TABLE 1B
NEWLY DISCOVERED TUBERCULOSIS CASES BY PLACE OF BIRTH AND LENGTH OF RESIDENCE BY AGE
1989

			TIME IN HAWAII					PLACE OF BIRTH		
AGE	Total	Foreign Born a/	1 year or less	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	Unknown	Mainland Born	Hawaii Born	Birth Place Unknown
0 - 4	2	1	1	-	-	-	-	-	-	1
5 - 9	1	1	-	1	-	-	-	-	-	-
10 - 19	9	8	6	1	-	1	-	-	1	-
20 - 29	28	25	10	6	4	5	2	1	-	-
30 - 39	29	26	7	8	4	7	-	1	1	1
40 - 49	24	17	3	1	1	12	-	-	7	-
50 - 59	30	23	6	7	3	7	-	3	4	-
60 - 69	32	18	2	3	2	11	-	1	13	-
70 - 79	23	15	3	3	1	6	2	-	8	-
80 - 89	11	10	-	1	-	6	3	1	-	-
Total	189	144	38	31	15	55	5	8	36	1

Notes: a/ Foreign-born includes people coming to Hawaii from both America and Western Samoa.

TABLE 2
TUBERCULOSIS CASES REPORTED BY GEOGRAPHIC AREA OF RESIDENCE
1989

GEOGRAPHIC AREA OF RESIDENCE	1989		1988		1987		Population Number	Percent
	Number	Rate a/	Number	Rate a/	Number	Rate a/		
State of Hawaii	189	17.2	171	15.7	195	18.0	1,098,200	100.
County of Honolulu	157	18.7	132	15.9	164	19.8	838,500	76.4
City of Honolulu	82	21.6	82	21.0	102	26.2	379,300	34.5
Rest of Oahu	75	16.3	50	11.3	62	14.1	459,200	41.8
County of Hawaii	13	11.1	18	15.7	9	7.8	117,500	10.7
County of Maui b/	17	18.3	16	17.7	19	21.0	93,000	8.5
County of Kauai	2	4.1	5	10.4	3	6.3	49,300	4.5

Notes: a/ Per 100,000 total population
b/ Includes Kalawao County

TABLE 3
TUBERCULOSIS CASES BY LOCATION OF DISEASE AND COUNTY OF RESIDENCE
1989

LOCATION OF DISEASE	COUNTY OF RESIDENCE									
	State of Hawaii		Honolulu		Hawaii		Maui a/		Kauai	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	189	100.0	157	100.0	13	100.0	17	100.0	2	100.0
Pulmonary	157	83.1	131	83.4	12	92.3	12	70.6	2	100.0
Extrapulmonary	32	16.9	26	16.6	1	7.7	5	29.4	-	-
Pleural	12	6.3	11	7.0	-	-	1	5.9	-	-
Lymphatic	-	-	-	-	-	-	-	-	-	-
Cervical	9	4.8	7	4.5	-	-	2	11.8	-	-
Intrathoracic	-	-	-	-	-	-	-	-	-	-
Other Lymphatic	1	.53	1	.64	-	-	-	-	-	-
Unknown	-	-	-	-	-	-	-	-	-	-
Bone and/or Joint	[illegible]	1.1	2	1.3	-	-	-	-	-	-
Genitourinary	5	2.6	2	1.3	1	7.7	2	11.8	-	-
Miliary	1	.5	1	.6	-	-	-	-	-	-
Meningeal	1	.5	1	.6	-	-	-	-	-	-
Peritoneal	1	.5	1	.6	-	-	-	-	-	-

Note: a/ Includes Kalawao County

TABLE 4
TYPES OF SERVICES PROVIDED BY SURVEY & CHEST CLINIC
1989

SERVICES	NUMBER	TOTAL
Survey Xrays Taken		
Honolulu County	13,108	
Hawaii County	1,401	
Maui County	1,008	
Kauai County	N/A	
Chest Clinic Xrays Taken	7,266	
Total Xrays Taken		22,733
Survey Skin Tests Given	27,047	—
Chest Clinic Skin Tests Given	2,276	
Total Skin Tests Given		29,323
Patients Starting Preventive Drug Therapy	2,098	
Patients Starting Multiple Drug Therapy	250	
Total Patients Starting Therapy		2,348

TABLE 5
NEWLY DISCOVERED TUBERCULOSIS CASES BY SOURCE OF REPORT AND COUNTY OF RESIDENCE
1989

	COUNTY OF RESIDENCE									
	State of Hawaii		Honolulu		Hawaii		Maui a/		Kauai	
SOURCE OF REPORT	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	189	100.0	157	100.0	13	100.0	17	100.0	2	100.0
Tuberculosis Control Program	91	48.1	76	48.4	8	61.5	5	29.4	2	100.0
Private Physician	67	35.4	52	33.1	5	38.5	10	58.8	-	-
Tuberculosis Hospital or OPD b/	3	1.6	3	1.9	-	-	-	-	-	-
General Hospital or OPD b/	9	4.8	8	5.1	-	-	1	5.9	-	-
Military Facilities	13	6.9	12	7.6	-	-	1	5.9	-	-
Death Certificate	1	.5	1	.6	-	-	-	-	-	-
Other	5	2.6	5	3.2	-	-	-	-	-	-

Notes: a/ Includes Kalawao County
b/ OPD - Outpatient Department

TABLE 6
NEWLY DISCOVERED TUBERCULOSIS CASES BY REASON FOR EXAMINATION AND COUNTY OF RESIDENCE
1989

	COUNTY OF RESIDENCE									
	State of Hawaii		Honolulu		Hawaii		Maui a/		Kauai	
REASONS FOR EXAMINATION	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	189	100.0	157	100.0	13	100.0	17	100.0	2	100.0
Tuberculosis Program Survey	46	24.3	44	28.0	-	-	2	11.8	-	-
Contact & Source Investigation	2	1.1	1	.6	1	7.7	-	-	-	-
Positive Reactor or Converter	7	3.7	7	4.5	-	-	-	-	-	-
Extension of Stay, Non-Immgrant Visa	-	-	-	-	-	-	-	-	-	-
Aliens with Waiver of Excludability for Tuberculosis	30	15.9	22	14.0	3	23.1	4	23.5	1	50.0
Aliens with Tuberculosis Not Considered Active	12	6.3	11	7.0	1	7.7	-	-	-	-
Review of Other Visa Films & Evaluation of Foreign-born	2	1.1	-	-	2	15.4	-	-	-	-
Symptoms or Illness	72	38.1	59	37.6	2	15.4	10	58.8	1	50.0
General Hospital & PMD X-ray Findings	10	5.3	6	3.8	3	23.1	1	5.9	-	-
Death Certificate	1	.5	1	.6	-	-	-	-	-	-
Other	7	3.7	6	3.8	1	7.7	-	-	-	-

Note: a/ Includes Kalawao County

HANSEN'S DISEASE SUMMARY

Although the number of new cases of Hansen's disease in each of the past few years has been small, Hawai'i continues to have the highest incidence and prevalence rates for Hansen's disease within the United States. This reflects the fact that the majority of our new immigrants come from countries with a high prevalence of Hansen's disease. The foreign-born population of Hawai'i accounts for most new cases.

In 1989, there were 18 new cases of Hansen's disease (Table 1), similar to the numbers the preceding two years but considerably lower than prior years. Table 2 shows the place of birth of new cases. Twelve cases, 75% of the foreign-born and 66.7% of the total, were born in the Philippines. Two (11.1%) were born in Samoa, which is the birthplace of 11.4% of the cases during the past eight years. One case was born in the Federated States of Micronesia and one in Japan. One case was born in Hawai'i and one elsewhere in the United States. In contrast to the past few years, the Hawaii-born case is an elderly man and his disease probably reflects infection many years ago.

Table 3 gives the incidence rate according to place of birth. The rates are very low for the Hawaii-born and other U.S.-born populations, but 11.0 per 100,000 for the foreign-born population.

Fifteen of the 18 cases (83.3%) had paucibacillary disease, including six tuberculoid (TT) and 10 borderline tuberculoid (BT). Only three cases had multibacillary disease, one lepromatous (LL) and two borderline lepromatous (BL). This is a marked change from most years in which half or more of the cases were multibacillary. The reasons for this change are not known. It may be the result of earlier case detection.

Table 4 shows the age distribution at the time of registration in Hawai'i. Cases were broadly distributed among the different age groups, with the exception of those below 10 years of age. The median age was forty years. Table 5 gives the age-specific incidence rates. While the majority of cases occurred in those between 10 and 39 years of age, the incidence rates are highest in the oldest age groups. Four of the 18 cases (22.2%) occurred in those seventy years or older, and the incidence rate in those age 75 years and older is 7.3 per 100,000 which approaches the rate in the foreign-born population. It is likely that this is at least partly a result of waning immunity as a consequence of aging.

The sex-specific incidence rate in men was higher than that in women (Table 6). This is the usual pattern in Hawai'i as well as in other places where Hansen's disease is endemic.

Table 7 shows the island of residence of new cases. O'ahu had 72.2% of the cases in 1989 and 80.6% of the cases during the past eight years. Table 8 gives the incidence rates for each island in 1989.

Table 9 shows the total number of patients on the Hansen's Disease Registry, 541 cases at the end of 1989. This is similar to the numbers in 1983 and 1984, after which a number of cases previously removed from the Registry were returned as part of a recall project. Many of these cases have since been removed again, as have a number of patients who have completed treatment. Four hundred forty seven (447) of the cases (82.6%) are on the Outpatient Registry and receive care for their Hansen's disease through the Hansen's Disease Community Program. All new cases are assigned to this Registry. Primary care for Hansen's disease is provided by private physicians in the community. Care is also rendered by other private providers and by Public Health Nurses. The Program, one of eleven Regional Hansen's Disease Centers in the U.S. under the Regional Hansen's Disease Program of the Gillis W. Long Hansen's Disease Center of the U.S. Public Health Service, coordinates provision of care and services. Direct care is also provided by the Program's nurses, social worker, paramedical assistants, and physician. Close contacts of newly-diagnosed patients are examined periodically for evidence of Hansen's disease. Much effort is directed toward education of patients, their family members, members of the health care community, and the general public in an attempt to insure optimum care and to remove the stigma which has been attached to Hansen's disease since ancient times.

Ninety (90) patients are on the Kalaupapa Registry and four on the Hale Mōhalu Registry. These individuals retain the right to reside in these facilities as long as they desire. No new cases are admitted to these institutions. There is an inpatient facility at Kalaupapa for residents requiring continuous care. Hale Mōhalu at Lē'ahi provides more intensive inpatient care for Kalaupapa residents and also provides short-term inpatient care for Hansen's Disease Community Program patients who require hospitalization for complications of Hansen's disease.

TABLE 1
NEW CASES AND TOTAL HANSEN'S DISEASE PATIENTS BY REGISTRY STATUS AND YEAR
1982 - 1989

CASES	YEAR							
	1982	1983	1984	1985	1986	1987	1988	1989
New Cases added to Registry	49	41	43	31	37	24	20	18
Total Cases on Registry January 1	506	550	578	661	651	653	633	571
Formerly diagnosed cases returned to Registry	11	5	58	4	6	2	5	4
Other additions (Transfer in, Registry correction)	-	-	3	7	1	-	-	1
Removed during year	16	18	21	52	42	46	87	23
Deaths	4	6	15	10	4	6	13	14
Left the State	12	12	5	39	6	14	21	7
Discharged from further surveillance	-	-	-	-	26	25	34	9
Other deductions (Registry correction)	-	-	1	3	6	1	19	-
Total cases on Registry December 31	550	578	661	651	653	633	571	

TABLE 2
INCIDENCE OF HANSEN'S DISEASE IN HAWAII, BY PLACE OF BIRTH
1989

PLACE OF BIRTH	NO. OF CASES	POPULATION	RATE PER 100,000
Hawaii-Born	1	716,002	0.1
Foreign-Born	16	144,962	11.0
Other U.S.	1	237,211	0.4
Total	18	1,098,175	1.6

TABLE 3
NEW CASES OF HANSEN'S DISEASE BY PLACE OF BIRTH AND YEAR OF REGISTRATION
1982 - 1989

PLACE OF BIRTH	YEAR									
	Total	Per-cent	1982	1983	1984	1985	1986	1987	1988	1989
Hawaii	23	(8.7)	2	4	2	2	3	5	4	1
Samoa	30	(11.4)	2	8	5	3	4	2	1	2
Federated States Of Micronesia	12	(4.6)	4	2	2	-	-	1	2	1
Other Pacific islands	6	(2.3)	1a/	-	-	3a/d/	-	1d/	-	-
Philippines	172	(65.4)	35	21	29	20	29	14	12	12
Vietnam	2	(0.8)	1	-	-	1	-	-	-	-
U.S. Mainland	6	(2.3)	-	2	3	-	-	-	-	1
Other	12	(4.6)	1e/	4e/	2i/ f/g/h/	2h/ k/	1b/ j/	1c/	1e/	1i/
Total	263	(100)	49	41	43	31	37	24	20	18

Notes:

- a/ Tonga
- b/ Cambodia
- c/ Canada
- d/ Marshall Islands
- e/ India
- f/ Laos
- g/ Portugal
- h/ China
- i/ Japan
- j/ Australia
- k/ Not available

TABLE 4
NEW CASES OF HANSEN'S DISEASE BY AGE GROUP AND YEAR
1982 - 1989

AGE IN YEARS	YEAR								
	1982	1983	1984	1985	1986	1987	1988	1989	TOTAL
ALL AGES	49	41	43	31	37	24	20	18	263
0 - 9	1	-	-	-	1	-	1	-	3
10 - 19	12	2	5	6	5	6	3	2	41
20 - 29	10	9	6	5	7	6	5	4	52
30 - 39	8	1	7	2	4	3	5	5	35
40 - 49	4	9	1	8	5	2	-	1	30
50 - 59	4	8	7	5	5	6	2	-	37
60 - 69	5	6	12	2	2	-	2	2	31
70 - and over	5	6	5	3	8	1	2	4	34

Overall median age for all years = 40 years.

FIGURE 1
AGE-SPECIFIC INCIDENCE OF HANSEN'S DISEASE IN HAWAII
1989

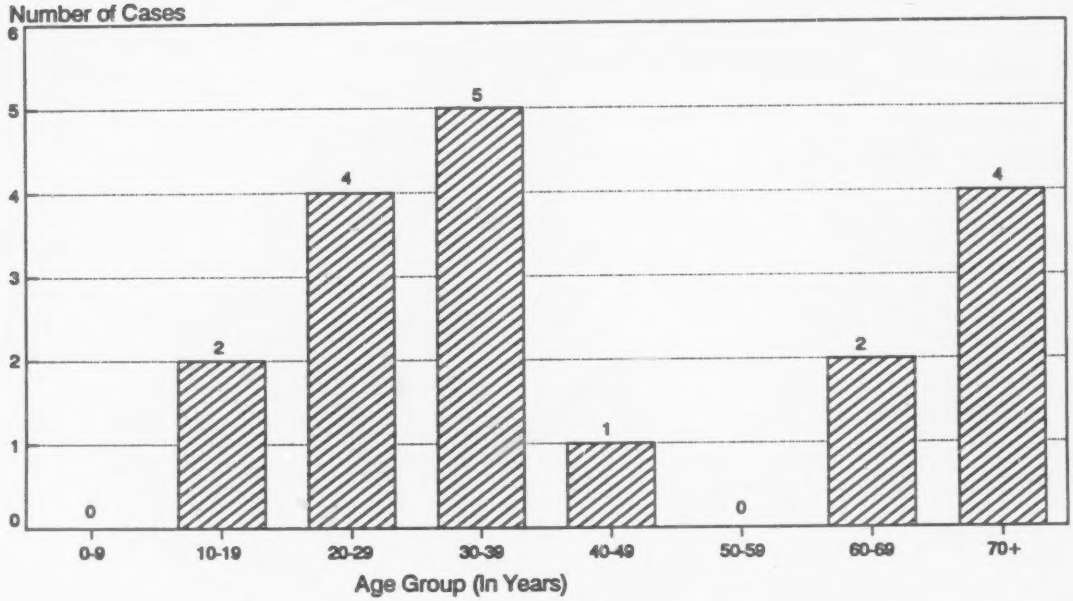


FIGURE 2
AGE-SPECIFIC INCIDENCE RATE OF HANSEN'S DISEASE IN HAWAII
1989

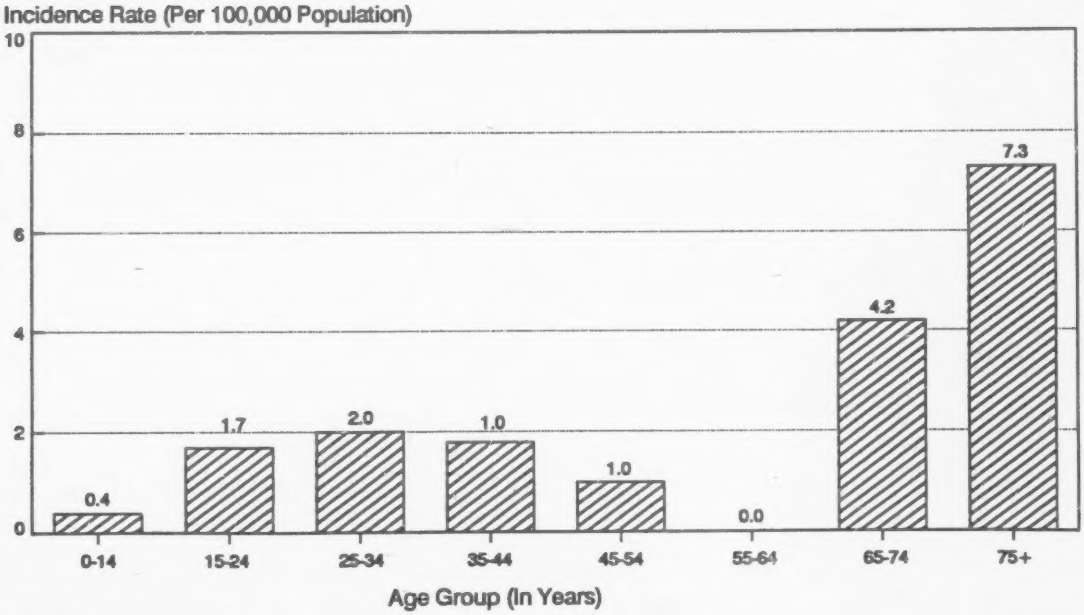


TABLE 5
AGE SPECIFIC INCIDENCE OF HANSEN'S DISEASE IN HAWAII
1989

AGE GROUP	NO. OF CASES	POPULATION	RATE PER 100,000
0 - 14	1	243,000	0.4
15 - 24	3	172,000	1.7
25 - 34	4	197,000	2.0
35 - 44	3	170,000	1.8
45 - 54	1	102,000	1.0
55 - 64	0	101,000	-
65 - 74	3	72,000	4.2
75+	3	41,000	7.3
Total	18	1,096,000	1.6

TABLE 6
SEX-SPECIFIC INCIDENCE OF HANSEN'S DISEASE IN HAWAII
1989

SEX	NO. OF CASES	POPULATION	RATE PER 100,000
Males	11	559,000	2.0
Females	7	539,000	1.3
Total	18	1,098,000	1.6

TABLE 7
NEW CASES OF HANSEN'S DISEASE BY ISLAND OF RESIDENCE AND YEAR
1982 - 1989

	YEAR									
ISLAND	1982	1983	1984	1985	1986	1987	1988	1989	Total	Per-cent
All Islands	49	41	43	31	37	24	20	18	263	100.0
Oahu	40	37	33	28	28	17	16	13	212	80.6
Hawaii	7	3	1	2	5	4	1	2	25	9.5
Maui	1	-	3	-	2	1	2	2	11	4.2
Kauai	1	1	4	-	2	2	1	-	11	4.2
Molokai	-	-	1	1	-	-	-	1	3	1.1
Lanai	-	-	1	-	-	-		-	1	0.4

TABLE 8
INCIDENCE OF HANSEN'S DISEASE BY ISLAND OF RESIDENCE
1989

ISLAND	1988 POPULATION	NO. OF CASES	RATE PER 100,000
All Islands	1,098,200	18	1.6
Oahu	838,500	13	1.6
Hawaii	117,500	2	1.7
Maui	93,000	2	2.2
Kauai	49,300	-	-
Molokai	6,700	1	14.9
Lanai	2,200	-	-
Niihau	207	-	-

TABLE 9
TOTAL CASES OF HANSEN'S DISEASE BY REGISTRY AND YEAR
1982 - 1989

	YEAR							
CASES	1982	1983	1984	1985	1986	1987	1988	1989
Total Cases on Registry (end of year)	550	578	661	651	653	633	571	541
Registry								
Outpatient (HDCP)	432	462	555	546	549	532	474	447
Kalaupapa	112	110	101	100	99	97	93	90
Hale Mohalu	6	6	5	5	5	4	4	4

HANSEN'S DISEASE INSTITUTIONAL SERVICES BRANCH

SUMMARY

During 1989, exploratory steps were taken in the gradual process of bringing closer together into one branch the previously separate branches at Kalaupapa and at Hale Mōhalu at Lē'ahi. Together they provide long-term care for the gradually shrinking population of "old timers" (see Table 9 in the previous page). Many of these 94 people are survivors from the period before effective antibacterial drugs were available to treat Hansen's Disease patients. Many of them have chronic disabilities, increasing as the mean age of the population (now over 65) advances by one year each year.

Plans for the Hansen's Disease Institutional Services Branch include:

1) providing more choices to Kalaupapa patients through regular visits to Kalaupapa by more physicians;

2) providing more patient involvement at Kalaupapa in policy formulation, including selection of key staff;

3) improving the flow of information as patients transfer between the two institutions and also utilize acute care hospitals and private physicians on O'ahu.

DENTAL HEALTH DIVISION

SUMMARY

The Dental Health Division is responsible for conducting programs for the surveillance, prevention and control of dental diseases. In addition to research and planning, programs are conducted which are aimed at preventing tooth decay and other oral diseases among needy groups and individuals in our community.

Target groups for our services include the homeless and medically indigent, long-term care residents, school-age children, community placed developmentally disabled and mental health clients, low income families and refugees.

Epidemiological data were collected in grades K-6 Statewide for the assessment of dental disease prevalence and dental care needs. Preventive services, including classroom dental health and hygiene training, oral health screening examinations and topical fluoride applications, were delivered at public schools statewide. Treatment services were available at six regional community dental clinics on O'ahu, at Waimano Training School & Hospital, Hawai'i State Hospital, Hale Mōhalu, Kalaupapa Dispensary, various long-term care facilities on O'ahu and statewide throughout the Community Hospitals System.

The Division field staff includes sixteen registered dental hygienists and seven dentists. Tables 1 & 2 reflect clinical activities for both the Dental Hygiene and Hospital & Community Dental Services Branches.

TABLE 1
SUMMARY OF DENTAL HEALTH SERVICES
STATE OF HAWAII, FISCAL YEAR 1988-1989

TYPE OF SERVICES	NUMBER SERVED
Prevention and Detection	
Number of School Children Given Topical Fluoride ApplicationTreatment	42,489
Number of School Children Referred to Private Dentist	9,600
Number of School Children Given Dental Health Education	15,000
Number of Third Grade Educational Classroom Presentations	215
Number of Persons Receiving Education Through the Division	200,000
Treatment	
Number of Persons Treated in Institutions	253
Number of Persons Treated in Community-centered Facilities	896
Number of Persons Treated in Community Hospitals	405

TABLE 2
TREATMENT DATA
HOSPITAL AND COMMUNITY DENTAL SERVICES BRANCH
STATE OF HAWAII, FISCAL YEAR 1988-1989

	PATIENTS		
CLINICS	Patients Seen	Adults	Minors
TOTAL	1,554	1,386	168
Institutional	253	246	7
Community-Centered	896	750	146
Community Hospitals	405	390	15

	SELECTED PROCEDURES						
CLINICS	Examinations	Radiographs	Prophylaxis	Topical Fluoride Applications	Fillings	Extractions	Dentures
TOTAL	3,652	1,941	1,674	129	3,527	1,126	480
Institutional	723	170	437	0	378	135	14
Community-Centered	2,055	1,749	1,003	121	3,010	866	436
Community Hospitals	874	22	234	8	139	125	30

PERSONAL HEALTH SERVICES

ADMINISTRATION

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FAMILY HEALTH SERVICES DIVISION

SUMMARY

The FAMILY HEALTH SERVICES DIVISION administers and coordinates programs and services concerned with health promotion and disease prevention for families, including women of childbearing age, mothers, infants, children and youth. These programs are carried out through the Maternal and Child Health Branch, which includes Family Planning, the Children with Special Health Needs Branch, and the School Health Services Branch. The Division emphasizes coordination of services which are family-centered and community-based.

The MATERNAL AND CHILD HEALTH BRANCH accomplishes its functions through three organizational sections: (1) Family Planning Services, (2) Maternal and Infant Services, and (3) Children and Youth Services. The goal of the Maternal and Child Health Branch is to assure that all women of childbearing age, infants, children, and youth in the state of Hawai'i achieve and maintain optimal health.

Priorities for the Branch in 1989 included addressing the problem of perinatal substance abuse and setting up adequate data systems for program monitoring and evaluation. Collaboration with the Alcohol and Drug Abuse Division, Public Health Nursing Branch, and the Developmental Disabilities Division resulted in the training of over 350 "front-line" professional and para-professional staff in the issues surrounding chemical dependency and pregnancy.

Family Planning Services Section

The Office of Family Planning provides overall planning, data collection, and evaluation; monitoring, training, and technical assistance; and coordination and development for the publicly subsidized family planning programs in Hawai'i. Program staff participate in the activities of numerous community task forces and advisory groups to promote awareness of family planning and to ensure inclusion of family planning issues in the broad context of preventive health.

Sociodemographics of clients served through the Family Planning clinics reveal that Caucasians and Filipinos seek services at a higher rate than their representation in the population (Figure 1). Seventy-two percent of clients served are between the ages of 18 and 29 years (Figure 2). The number of clients served continued to increase during fiscal year 1989, reversing a plateau in the previous year (Figure 3).

Special projects during the year included: contracting for an adolescent pregnancy prevention study to determine some of the reasons adolescents become pregnant, how they access resources to deal with sexuality-related issues, and what community barriers there are for adolescents seeking information or care; obtaining funding to address the issue of AIDS and Adolescents which will be a joint project with the Adolescent Health Network, the Peer Education Program, the Queen's "Making Choices for Health" Program, and the STD/AIDS Prevention Program; and the continuation of the Chlamydia Project conducted in cooperation with the STD Program. The Family Planning Information Line (737-6311) continued to serve as a link to the community seeking information about subsidized family planning providers. Approximately 4,000 calls were received.

Training was provided to contractors and other community professionals. Sessions included: Crisis Intervention: Identification and Referral of Physically and Sexually Abused Women; a Nurse Practitioner Update; Cervical Cap Training for Clinicians; Family Planning and HIV Prevention, Where Do You Fit In?; a Family Planning Health Educators Update; and Substance Abuse Prevention. Over 150 individuals attended the trainings.

Maternal and Infant Services Section

The Maternal and Infant Services Section offers five programs which address the concerns of the maternal-fetal/infant population.

The Regional Perinatal Program's primary goal is that every pregnant woman and newborn in the State receive services appropriate to their assessed needs. The estimated target population includes 25,000 pregnant women of which 20 percent are estimated to be high-risk pregnancies, and 2,800 high-risk infants. Contracted through the Kapi'olani Medical Center for Women and Children, the Regional Perinatal Program has developed a series of quality assurance documents, risk identification tools and follow-up protocols, community resource directory, professional perinatal and public education, and health advocacy activities.

The Neonatal Intensive Care Unit (NICU) Follow-up Program is a collaborative project between the Department of Health, Kapi'olani Medical Center for Women and Children, and the private pediatric community. The purpose of the program is to develop a system for the identification and follow-up of all high risk low birth weight infants born in the State of Hawai'i which includes medical, developmental, and psychosocial screening and referral through age three. During FY 1989, 232 infants were assessed. Of those assessed, 42% were suspected of having a handicapping condition.

The Maternity and Infant Care Projects provide multi-disciplinary comprehensive prenatal care, community based prenatal education, family planning services to high risk pregnant women and services to infants under one year of age. Project activities are available in the Waimānalo, Hilo, Kona and Ka'ū communities. Through purchase of service contracts, the Section was able to extend direct perinatal care services to the Wai'anae and Kalihi-Pālama communities. The majority of clients served statewide were Hawaiian/Part-Hawaiian (Figure 4). Forty one percent were under 19 years (Figure 5), with the highest percentage of young mothers being seen at the Hilo Maternity and Infant Care Project (Figure 6). Overall, forty two percent of clients served were uninsured (Figure 7), with the percentage varying from 61% in Hilo to 26% in Wai'anae (Figure 8). Only 55% of women served entered prenatal care in the first trimester, compared to 72% for the state as a whole (Figure 9). Risk factors for a poor perinatal outcome were all more prevalent among clients served than the state as a whole (Figure 10).

Healthy Start/Family Support Services are provided to families at risk for child abuse and neglect through contractual agreements with six community agencies in the following communities: 'Ewa, Hilo, Kalihi, Kaua'i, Kona, Maui, Moloka'i, Wai'anae, Central O'ahu, Diamond Head and the Windward area. Approximately 50 percent of all eligible births throughout the state received hospital based screening for factors associated with family dysfunction (Figure 11). Seventeen percent of families screened were found to be at-risk (Figure 12). Over 2,000 families received home based interventions to alleviate family stress, to promote family functioning, and enhance child development (Figure 13).

Children and Youth Services Section

The Adolescent Health Network is a federally funded demonstration project which has developed community initiatives for promoting adolescent health. Activities included the development of a youth wellness case management system for upper elementary students in Wai'anae, and self esteem building activities on Moloka'i.

The Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Program, through an interagency agreement with the Department of Human Services, provides outreach and case management to EPSDT clients and technical assistance to EPSDT providers on a statewide basis. The program's objectives are to ensure entry and maintenance of Medicaid-eligible clients 0 - 19 years into the EPSDT system. The target population includes every child receiving Medicaid benefits.

Because of the historically low EPSDT utilization rates in Hawai'i an area of emphasis has been provider recruitment and physician education. Non-EPSDT Medicaid providers were targeted for recruitment in areas with poor provider-eligible ratios. The number of providers has increased from 111 in January, 1989 to 144 in January 1990. Current EPSDT providers were also visited to explain the EPSDT program and encourage system utilization. Other activities have included education and training sessions for the community, system development, and community networking.

Figure 14 depicts the total number of cases referred for outreach, 2,518. Fifty four percent of these (1,356) received outreach services. Hawaiian/Part-Hawaiian clients made up the largest percentage (40.8%) of those receiving services (Figure 15) as did children between the ages of 1 and 10 years (Figure 16). Of the 956 clients requesting services 8.5% were ineligible or lost to follow-up (Figure 17).

The Preschool Developmental Screening Program continued its transition to a two tiered system of identification of preschool children with, or at risk for, developmental and/or learning delays. Funds were appropriated to develop and pilot test a first level screening tool for administration by preschool teachers. Selection of the second level tool was completed and training of program staff as well as agency and community members was carried out. Ongoing services to preschools included screening, consultation, and training.

The Waimānalo Children and Youth Project provides comprehensive health care services to Waimānalo infants, children and adolescents up to age 16 years. Services include pediatric, public health nursing, social work, and nutrition services. Over the last year the Waimānalo Project has worked extensively with the community toward the eventual expansion of the Waimānalo Project into a comprehensive, community health center. An independent, non-profit entity with a community board was established to guide this development.

The CHILDREN WITH SPECIAL HEALTH NEEDS BRANCH (formerly Crippled Children Services Branch) offers diagnostic evaluations by specialists to children under the age of 21 years who are suspected of having one of the eligible medical conditions. Treatment services for those children who meet financial and medical eligibility include medical and surgical treatment, hospitalization, occupational and physical therapy, speech therapy, orthodontic and dental treatment, social work and nursing services.

The medical eligible conditions include birth defects (such as cleft lip and palate, congenital heart disease, orthopedic conditions and spina bifida), severe asthma, rheumatic fever and rheumatic heart disease, surgically correctable eye conditions, hearing impairment and certain neurologic disorders. The Branch also provides genetic counseling and diagnostic services, comprehensive myelodysplasia services, and comprehensive services for children with rheumatic disorders through the Pediatric Arthritis Center of Hawai'i.

At the end of 1989, there were approximately 1,768 clients registered with the Children with Special Health Needs Branch.

The Branch also administers the **Hawai'i Newborn Screening Program** which has statewide responsibilities for assuring that all infants are tested for phenylketonuria (PKU) and congenital hypothyroidism. Major responsibilities include the tracking and follow-up of infants to assure satisfactory testing to detect infants with the specified diseases and to assure appropriate and timely treatment. In 1989, it is estimated that 99.4 percent of the reported live births in Hawai'i were screened for PKU and congenital hypothyrodism. Preliminary analysis of the Newborn Screening Registry indicates that the rate of PKU and congenital hypothyroid cases in Hawai'i is about the same maginitude as reported nationally. With Hawaii's live births of approximately 20,000 per year, one would expect one to two PKU cases a year and five to six congenital hypothyroid cases a year. In 1989, there were two classical PKU cases and twelve congenital hypothyroid cases detected. Of the 12 congenital hypothyroid cases, 7 have primary congenital hypothyroidism, 4 had transient hypothyroidism, and 1 case is still to be determined. From 1986-1989, there were 7 classical PKU cases, 2 hyperphenylalaninemia cases, and 34 congenital hypothyroid cases detected. Of the 34 congenital hypothyroid cases, 18 have primary congenital hypothyroidism, 7 had transient hypothyroidism, and 12 cases are still undetermined.

The Prenatal Screening and Diagnosis Program ensures that pregnant women have information about and access to prenatal screening, diagnostic and follow-up services if so desired. The program is responsible for providing educational materials to prenatal care providers for their clients, assuring quality laboratory testing, coordinating data collection, and assisting with referral for counseling and diagnostic services and treatment services as requested. In 1989, approximately 11,700 pregnant women had the maternal serum alpha fetoprotein (MSAFP) screening test.

Begun in August 1988, the **Hawai'i Birth Defects Monitoring Program** (HBDMP) was established to be a reliable and valid information source for ascertaining the number and kind of birth defects and other adverse reproductive outcomes occurring in Hawai'i. During calendar year 1989, the HBDMP began abstracting records of babies born with birth defects at the Kapi'olani Medical Center. The intent is to expand abstracting activities to other hospitals statewide as resources permit. The HBDMP is taking the first steps in realizing its long range goals of identifying the causes of birth defects, designing preventive measures, and improving reproductive outcome in the state.

This was an eventful year for the Zero-to-Three Hawaii Project. Act 107-89, authorizing the Department to establish a statewide system of early intervention services, was signed into Law by Governor John Waihee on May 31, 1989. Major appropriations were obtained to fund a central directory of services and a care coordinated system. Additional federal grants were received to develop a Crises Nursery for West Hawai'i, a Parent-Pediatric Partnership Grant under the MCH Healthy Tomorrow Project, and a grant for respite care services throughout the State. Seven direct service grants were funded to further expand early intervention services statewide. Pilots were done to implement the Individual Family Support Plan in a number of projects.

The SCHOOL HEALTH SERVICES BRANCH provides a health service delivery system for all public school students, with particular emphasis on preventive health care services. The Branch serves about 200,000 students on all the islands except Ni'ihau. School health services are available to student and staff alike. The goal is to ensure that students are in the best state of health for an optimum learning environment.

The services are provided by two sections. The School Health Services Section focuses on health promotion and prevention, first aid services for illness and injury, and referral of problems to appropriate resources in the community. With the advent of P.L. 94-142, there is now a greater demand for nursing services to children with specialized health care needs.

The School Health Support Services Section includes the Vision and Hearing Screening Unit, the Occupational Therapy and Physical Therapy Units and the Social Work Unit.

The Vision and Hearing Unit provides services for the early identification of specific sensory deficits in order to prevent interference with learning and/or social adjustment. They provide regular, periodic screening, rescreening of identified students, issue medical referrals and conduct follow up education and consultation with parents and teachers. Selected services are provided to preschools and private schools.

The Occupational Therapy Unit and the Physical Therapy Unit, both provide evaluation, consultation and therapy services to the exceptional students in the school population, in accordance with P.L. 94-142. Both types of therapy services are directed toward the development and maintenance of the handicapped child's potential for independence in all educationally related activities. The increase in the number of children requiring support services in schools, outside of medical settings, has necessitated an expansion and a change in the kinds of services therapists offer.

The Social Work Unit is a supportive program for identified social and family needs, primarily for the exceptional child population. Some social work consultation and help is given to non-special education children but currently the staff is not large enough to cover all the needs.

The Peer Education Program provides needs assessment of health problems and health education activities facing school-aged children through the collaboration of the Departments of Health and of Education and other community agencies. The main purpose of the Peer Education Program is to empower students by gaining technical knowledge about a variety of health issues, such as, AIDS, drug abuse, teenage pregnancy, etc. and, thereby develop social skills. The resulting attitudinal and behavioral modifications enhanced self-care and responsibility, self-esteem, decision-making and problem-solving skills as the end goods of the program.

FAMILY HEALTH SERVICES DIVISION

FIGURE 1
ETHNICITY OF CLIENTS
OFFICE OF FAMILY PLANNING
1989

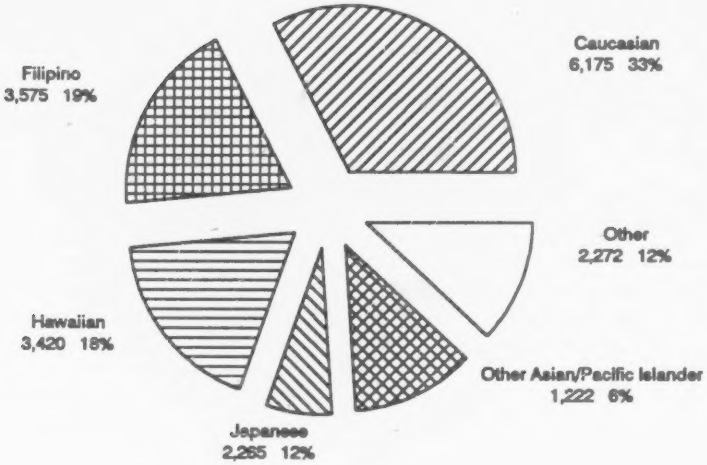


FIGURE 2
AGE DISTRIBUTION AND PERCENT OF FAMILY PLANNIING CLIENTS
OFFICE OF FAMILY PLANNING
1989

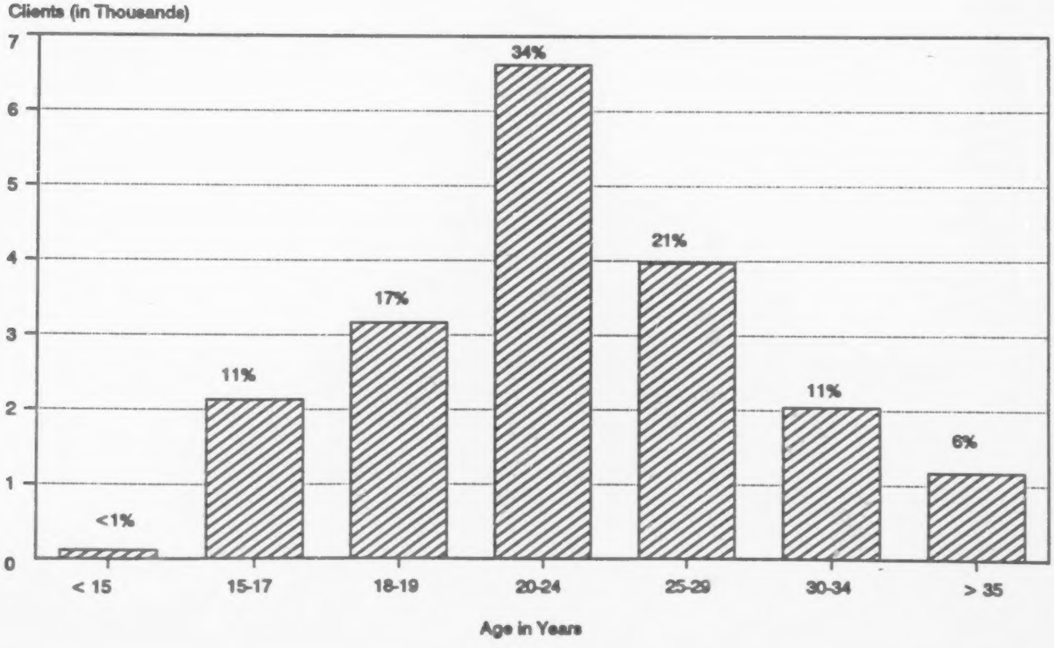


FIGURE 3
NUMBER OF CLIENTS SERVED
OFFICE OF FAMILY PLANNING
1989

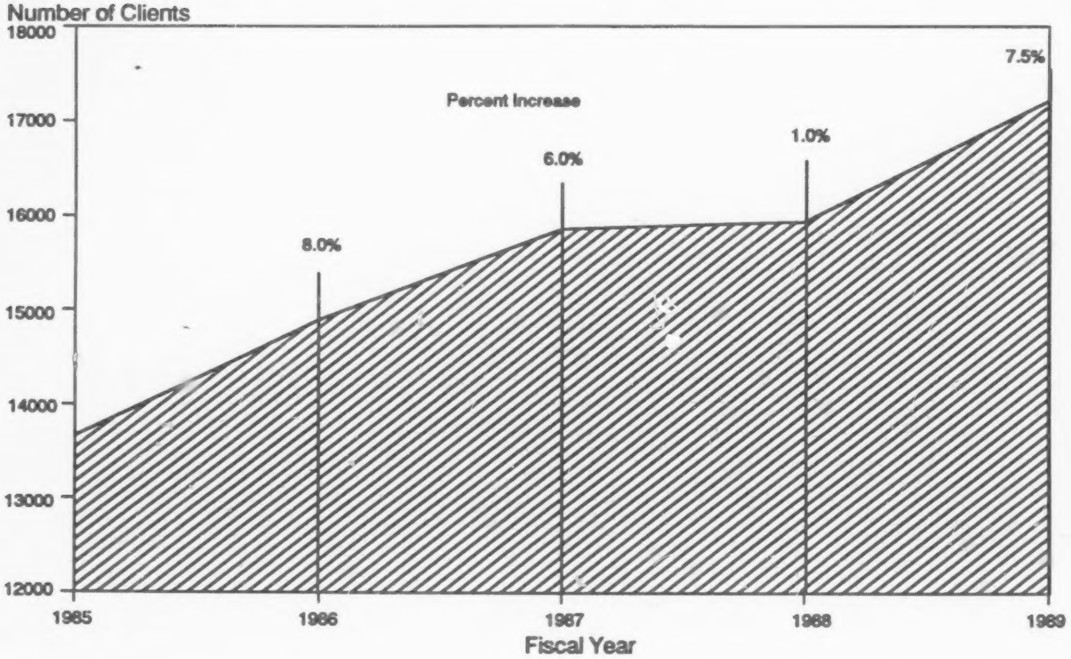


FIGURE 4
ETHNIC DISTRIBUTION OF CLIENTS RECEIVING PERINATAL SERVICES
MATERNAL AND INFANT SERVICES SECTION
1989

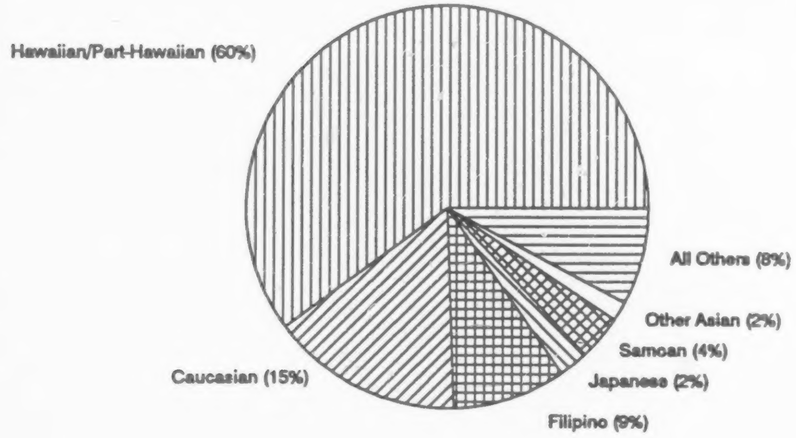


FIGURE 5
AGE DISTRIBUTION OF CLIENTS RECEIVING PERINATAL SERVICES MATERNAL AND INFANT SERVICES SECTION
1989

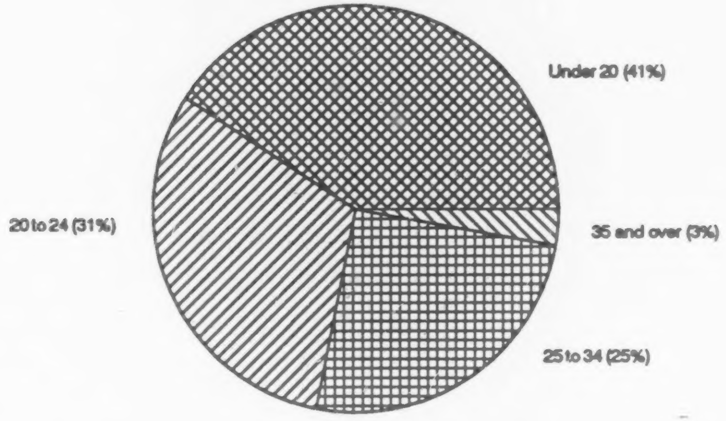


FIGURE 6
COMPARISON OF AGE DISTRIBUTIONS BY PERINATAL SITE MATERNAL AND INFANT SERVICES SECTION
1989

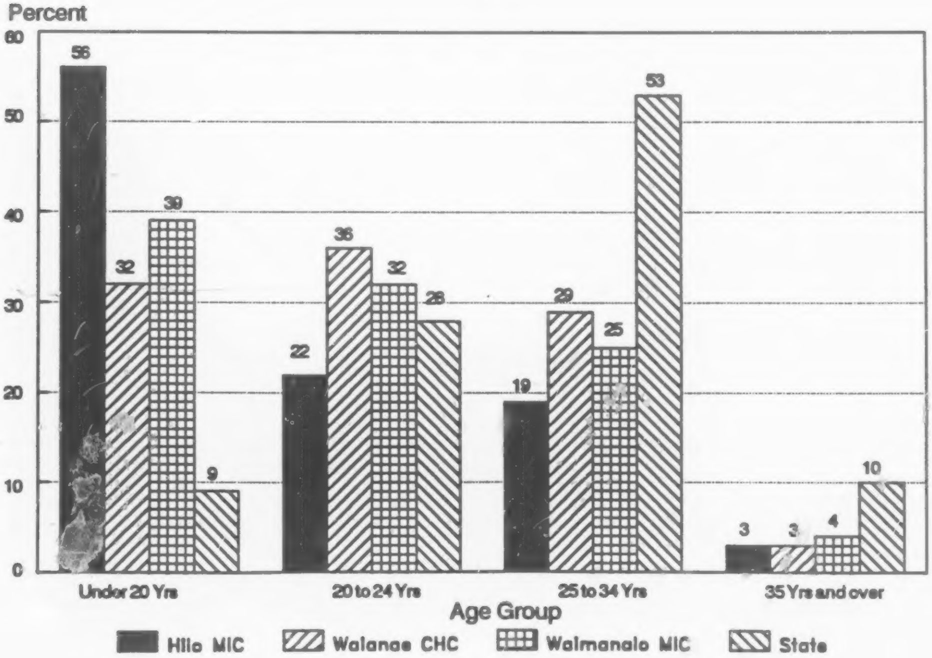


FIGURE 7
INSURANCE COVERAGE OF CLIENTS RECEIVING PERINATAL SERVICES MATERNAL AND INFANT SERVICES SECTION
1989

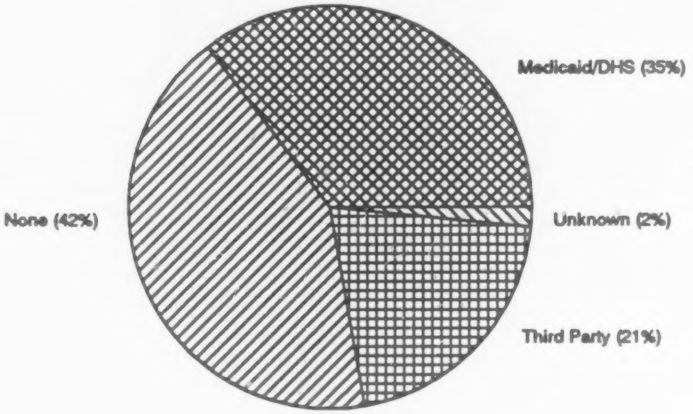


FIGURE 8
INSURANCE COVERAGE OF CLIENTS RECEIVING PERINATAL SERVICES BY PERINATAL SITE MATERNAL AND INFANT SERVICES SECTION
1989

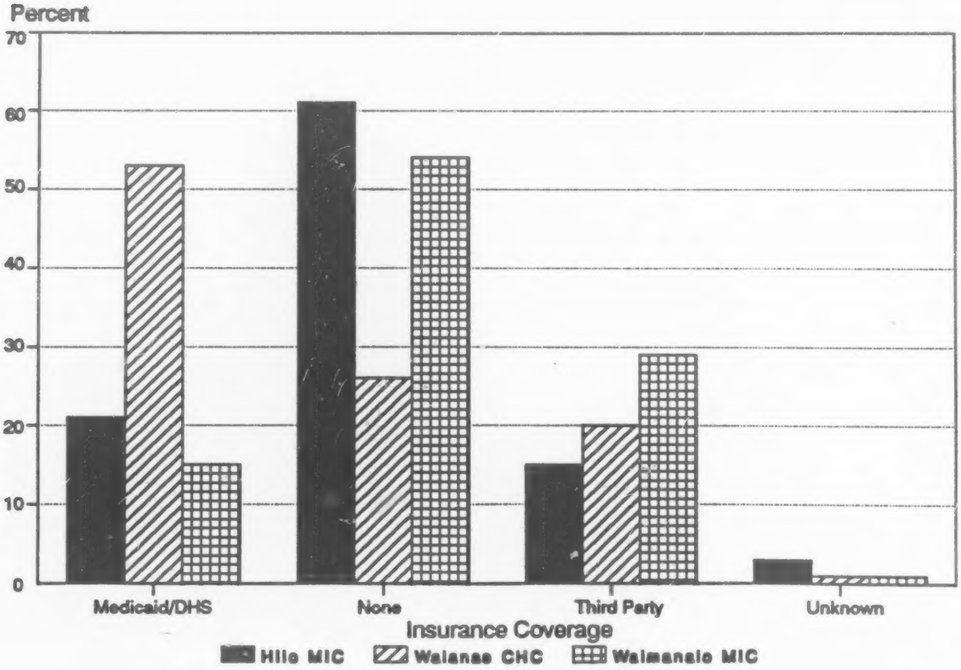


FIGURE 9
TRIMESTER CLIENT SOUGHT PERINATAL CARE
MATERNAL AND INFANT SERVICES SECTION
1989

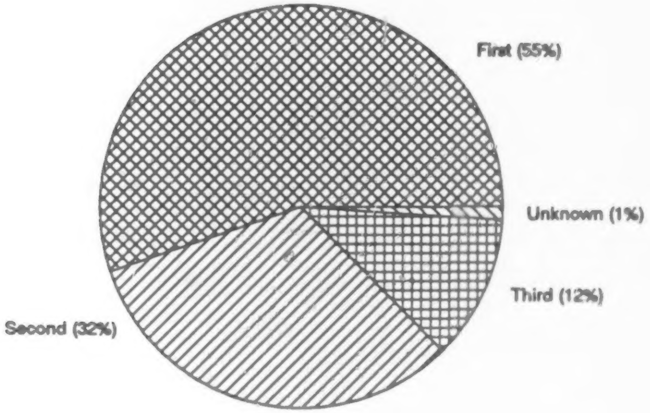


FIGURE 10
SELECTED RISK FACTORS OF CLIENTS RECEIVING PERINATAL SERVICES BY SITE
MATERNAL AND INFANT SERVICES SECTION
1989

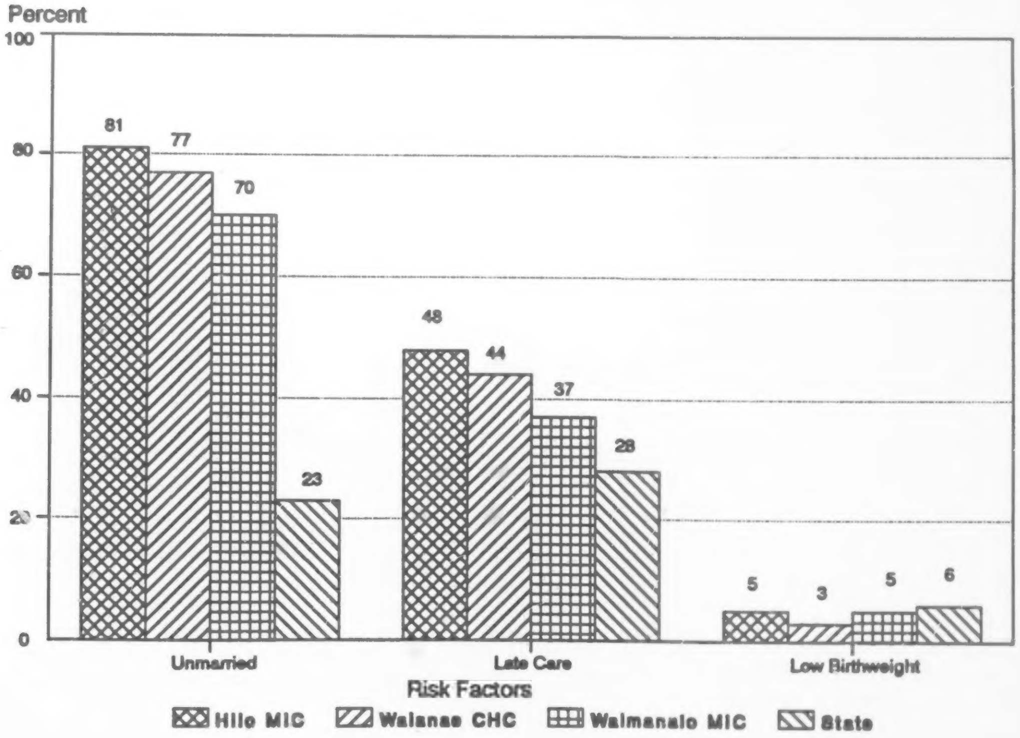
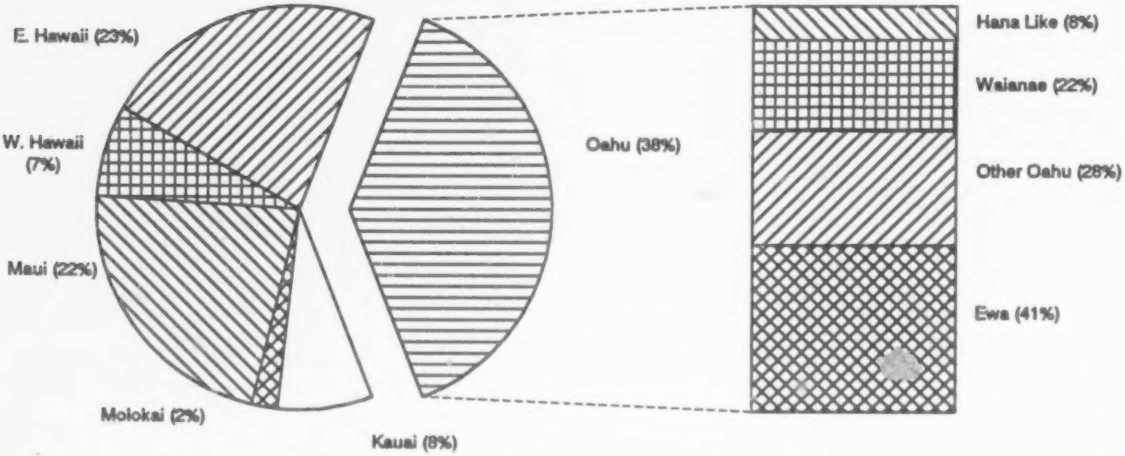


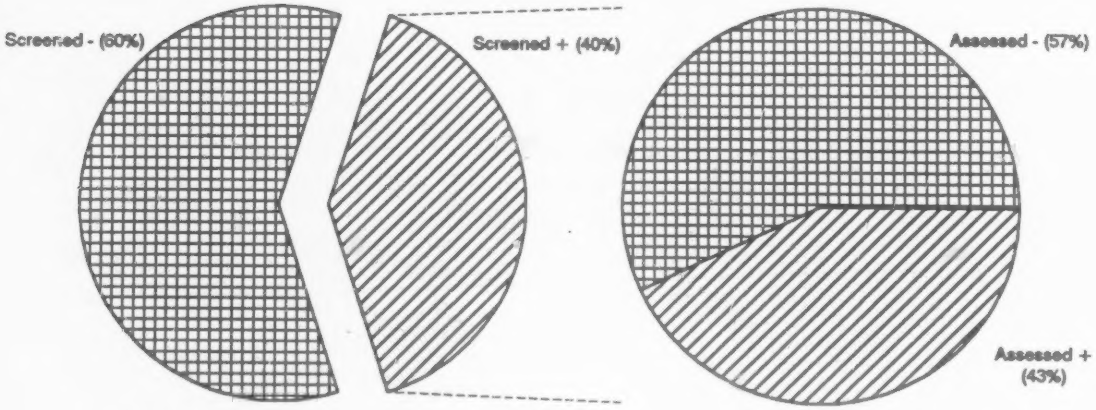
FIGURE 11
GEOGRAPHIC DISTRIBUTION OF SCREENED POPULATION
HEALTHY START/FAMILY SUPPORT SERVICES PROGRAM
PROGRAM FY 1989



N = 3389 (Six months data collection)

N = 1292

FIGURE 12
RESULTS OF EARLY IDENTIFICATION
HEALTHY START/FAMILY SUPPORT SERVICES PROGRAM
PROGRAM FY 1989



N = 3389 (Six months data collection)

Note: 17% of families identified as high risk.

FIGURE 13
GEOGRAPHIC DISTRIBUTION OF CLIENTS IN HOME VISITOR SERVICES BY SITE HEALTHY START/FAMILY SUPPORT SERVICES PROGRAM
PROGRAM FY 1989

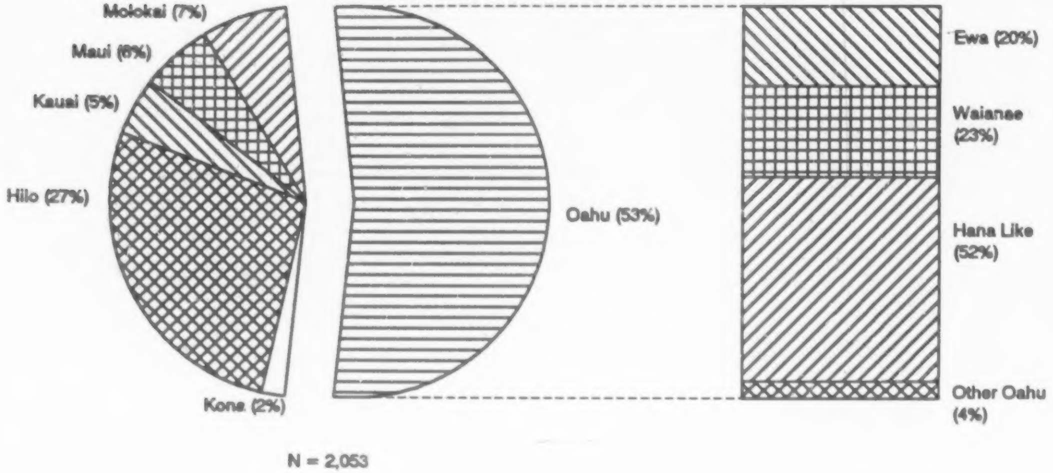


FIGURE 14
REFERRAL FOR EPSDT SERVICES
1989

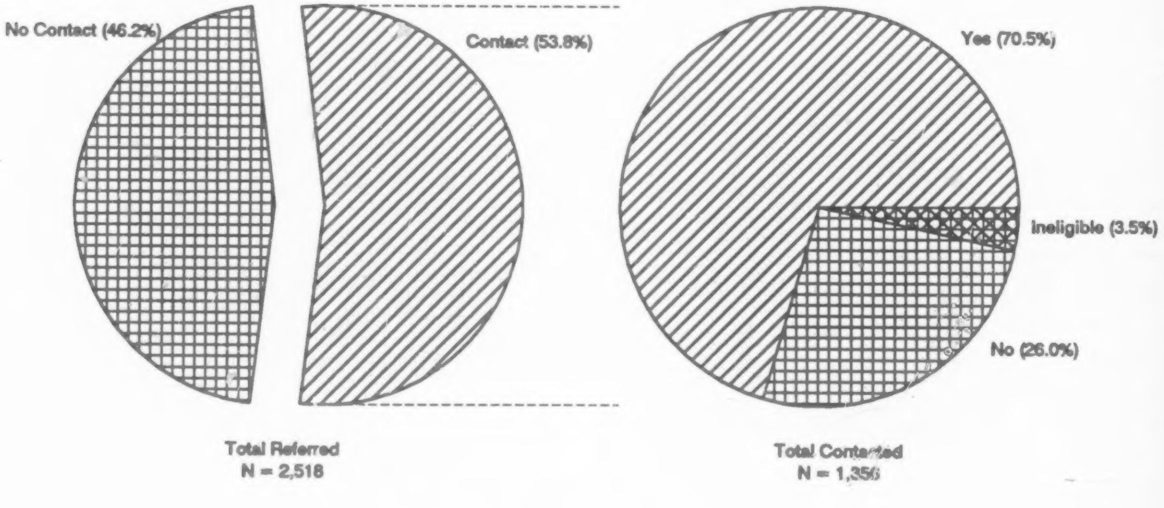


FIGURE 15
ETHNICITY OF EPSDT CLIENTS
EPSDT PROGRAM
1989

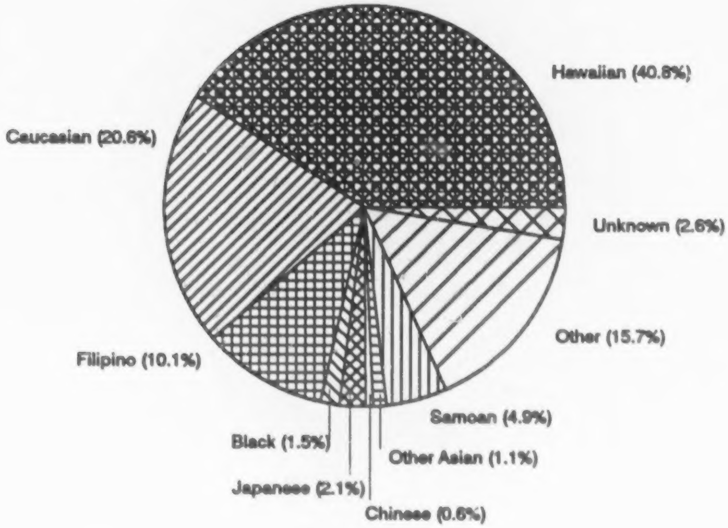


FIGURE 16
AGE DISTRIBUTION OF EPSDT CLIENTS
EPSDT PROGRAM
1989

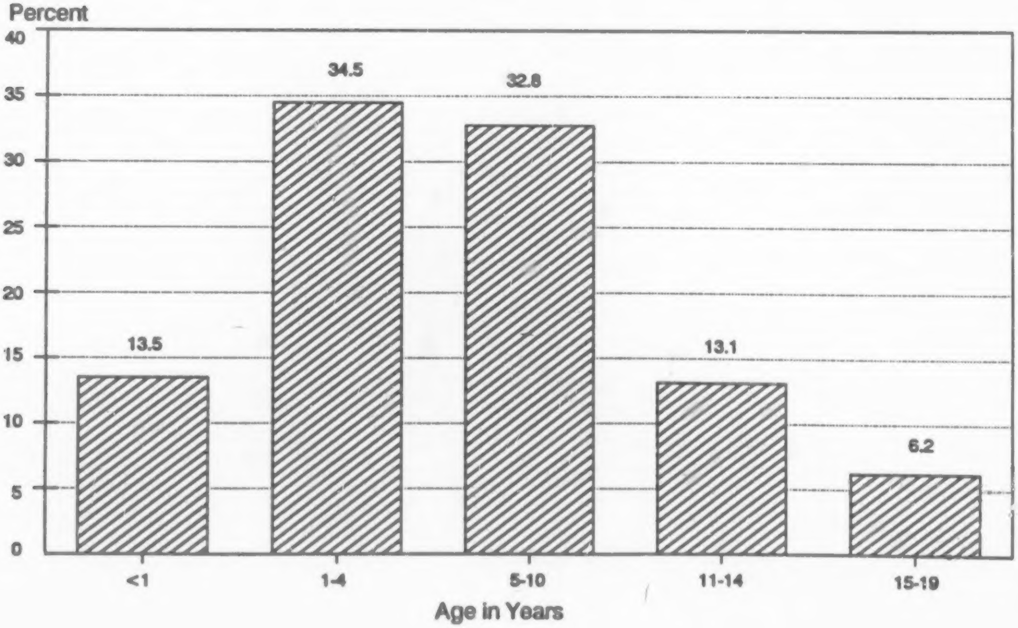
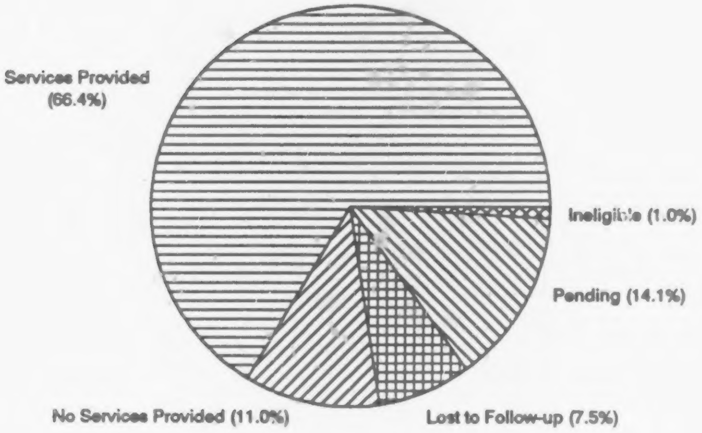


FIGURE 17
OUTCOMES OF REQUEST FOR SERVICES
EPSDT PROGRAM
1989



N = 956

TABLE 1
TOTAL CLIENT COUNT BY DIAGNOSIS/PROGRAM CHILDREN WITH SPECIAL HEALTH NEEDS BRANCH
1389

DIAGNOSIS/PROGRAM	TOTAL
Cardiac	473
Congenital Malformations	51
Craniofacial	184
Hearing Impaired	459
Surgical Ear	56
Surgical Eye/Vision	56
Neural Tube Defects	63
Neurology	160
Orthopedic	66
Pulmonary	76
Endocrine/Metabolic	0
Newborn Screening	48
Genetics	15
Cerebral Palsy	36

TABLE 2
TOTAL NUMBERS OF HEALTH ROOM VISITS, REASON FOR VISIT AND DISPOSITION SCHOOL HEALTH SERVICES BRANCH SCHOOL YEARS 1983 - 84 THROUGH 1988 - 89

Visits	YEAR				
	1983 - 84	1984 - 85	1985 - 86	1986 - 87	1988 - 89
Total visits to health room	501,515	524,973	521,973	608,613	587,888
Reason for visit (Students Only):					
Illness	(44.75) 224,412	(45.33) 237,993	(43.43) 226,424	(44.93) 273,431	(44.91) 264,040
Injury	(39.11) 196,141	(37.97) 199,318	(38.63) 201,416	(36.73) 223,564	(35.51) 208,738
Medication	(6.13) 30,733	(7.02) 36,875	(8.42) 43,882	(9.67) 58,849	(11.04) 64,897
TLC	(4.72) 23,688	(4.10) 21,540	(4.19) 21,837	(4.11) 24,990	(4.52) 26,553
Non-health	(5.14) 25,770	(5.57) 29,247	(5.33) 27,780	(4.43) 26,956	(3.83) 22,489
Disposition (Students and Staff):					
Sent home	(19.67) 98,672	(21.05) 110,519	(19.86) 103,561	(20.99) 127,727	(21.19) 124,591
Returned to class	(78.43) 393,322	(77.14) 404,974	(78.41) 408,773	(77.34) 470,728	(76.84) 451,719
Remained in health room	(1.90) 9,521	(1.81) 9,480	(1.73) 9,005	(1.67) 10,158	(1.97) 11,578

General Notes:

1) An official report by the branch for the school year 1987-88 was not produced. Unofficial figures for 1987-88 as stated in the Department of Health 1988 statistical annual are as follows:

Total visits to health room:	631,628
Reason for visit (Student only):	
Illness	287,469
Injury	235,473
Medication	124,607
TLC	29,427
Non-health	25,931
Disposition (Students and Staff):	
Sent home	169,532
Returned to class	467,940
Remained in health room	10,949

2) Total health room visits include students and staff.
3) Numbers are approximate.
4) Numbers in parenthesis represent percentages of annual health room visits.

TABLE 3
REQUEST FOR ADMINISTRATION OF MEDICATION BY STUDENT AND CONDITION
SCHOOL HEALTH SERVICES BRANCH
1988 - 89

District	Numbers of Students a/	Conditions c/	No.	NUMBER OF MEDICATION c/		
				PRN	Scheduled	Storage
Honolulu	24	Allergy	25	--	3	21
Windward	13		15	7	6	--
Central	7		8	6	1	--
Leeward	12		13	10	2	--
Hawaii	5		5	--	1	4
Maui b/	9		9	--	9	--
Kauai	--		--	--	--	--
Honolulu	20	Asthma	21	2	11	7
Windward	17		17	4	13	--
Central	52		52	28	23	--
Leeward	20		21	11	9	--
Hawaii	18		18	2	12	4
Maui b/	14		14	8	6	--
Kauai	6		6	2	4	--
Honolulu	2	Headache, Migraine	2	--	2	--
Windward	--		--	--	--	--
Central	2		2	2	--	--
Leeward	3		3	2	1	--
Hawaii	--		--	--	--	--
Maui b/	2		2	2	--	--
Kauai	--		--	--	--	--
Honolulu	76	Hyperactivity	76	--	76	--
Windward	103		103	--	103	--
Central	149		150	--	149	--
Leeward	95		97	--	95	--
Hawaii	17		17	--	17	--
Maui b/	9		9	--	9	--
Kauai	9		9	--	9	--
Honolulu	10	Seizures	10	--	9	1
Windward	9		9	--	9	--
Central	15		15	--	15	--
Leeward	10		11	--	10	--
Hawaii	4		4	--	8	--
Maui b/	4		4	--	4	--
Kauai	3		3	1	3	--
Honolulu	15	Other	15	1	14	--
Windward	20		21	7	13	--
Central	37		37	15	21	1
Leeward	14		17	2	12	--
Hawaii	10		10	2	8	--
Maui b/	6		7	3	3	--
Kauai	3		3	1	1	1
TOTAL	848		864	118	679	39

Notes:

a/ A student is counted only once in the diagnostic category that is listed first.

b/ Maui includes the islands of Maui, Molokai and Lanai.

c/ A student may have more than one medication and condition.

TABLE 4
VISION STATISTICS
SCHOOL HEALTH SERVICES BRANCH
1988 - 1989

Type of School	Total Number Screened	Number Referred	% Ref.	No. of Completed Referrals	% Comp. Ref.	No. New Deficit Find.
Preschools/ Private Schools	897	19	2.0	10	53	10
Dept. of Educ.	114,614	3,075	3.0	2,052	67	1,893
ISLAND TOTALS						
Oahu	79,155	2,301	3.0	1,527	66	1,397
Hawaii	16,689	310	2.0	219	71	207
Maui	11,832	364	5.0	224	62	208
Kauai	6,938	100	1.0	82	82	81
TOTAL	115,511	3,094	3.0	2,062	67	1,903

TABLE 4 (Cont.)

Type of School	% New Def. Find.	% Def. Find. of No. Screen	No. New Glasses Prescribed	% New Glasses	% New Glass of No. Screen	% Over Ref.
Preschool/ Private Schools	100	1.0	1	1	- - -	- - -
Dept. of Educ.	92	2.0	1,316	70	1.0	8.0
ISLAND TOTALS						
Oahu	91	2.0	983	70	1.0	9.0
Hawaii	95	1.0	145	66	1.0	5.0
Maui	93	2.0	117	52	1.0	7.0
Kauai	99	1.0	71	88	1.0	1.0
TOTAL	92	2.0	1,317	69	1.0	8.0

TABLE 5
HEARING STATISTICS
SCHOOL HEALTH SERVICES BRANCH
1988 - 1989

Type of School	Total Number Screened	Number Referred	% Referred	Number of Completed Referrals	% Completed Referrals	Number Deficit Findings	% Deficit Findings	% Deficit Findings of Number Screened	% Over Referred
Preschools	9,574	541	6	270	50	222	82	2.0	16
Private/Parochial Schools	8,883	247	3	172	70	140	81	2.0	19
Dept. of Educ.	76,382	3,137	4	1,535	49	1,276	83	2.0	17
ISLAND TOTALS									
Oahu	65,632	2,759	4	1,463	53	1,197	82	2.0	18
Hawaii	13,869	480	3	146	30	102	71	1.0	29
Maui	9,739	391	4	295	75	285	97	3.0	3
Kauai	5,632	300	5	76	25	57	75	1.0	25
TOTAL	94,839	3,925	4	1,977	50	1,638	83	2.0	17

TABLE 6
NUMBER OF STUDENTS RECEIVING PHYSICAL THERAPY SERVICES
BY CATEGORY AND DISTRICT
SCHOOL HEALTH SERVICES BRANCH
FY 1988-1989

Reason	Honolulu	Windward	Central	Leeward	Hawaii	Maui	Kauai	Total
Severely Multiply Handicapped	46	20	41	62	34	8	10	221
Severely Learning Disabled	28	12	18	8	16	9	4	95
Mild Ment. Retarded	19	4	5	7	9	5	1	50
Mod. Ment. Retarded	25	6	12	12	13	4	0	72
Sev./Prof. Ment. Retarded	18	0	5	6	6	1	2	38
Ortho. Handicapped	56	33	45	32	26	9	6	207
Emot. Handicapped	3	0	1	2	1	0	0	7
Visually Impaired	2	0	3	0	5	0	1	11
Hearing Impaired	10	8	4	2	1	3	2	30
Learning Impaired	20	28	22	21	17	7	6	121
Other Health Impaired	16	6	14	4	6	2	2	50
Speech Impaired	5	2	3	0	4	0	0	14
Others	85	47	82	45	22	18	22	321
TOTAL	333	166	255	201	160	66	56	1237

DEVELOPMENTAL DISABILITIES DIVISION

SUMMARY

The Developmental Disabilities Division plans, develops, administers and coordinates an array of programs and services statewide for persons with developmental disabilities or mental retardation. The services and programs are provided by the Community Services for the Developmentally Disabled Branch and Waimano Training School and Hospital Branch. The Division strives to work with families to promote services which enhance the quality of life for persons with developmental disabilities or mental retardation.

COMMUNITY SERVICES FOR THE DEVELOPMENTALLY DISABLED BRANCH

While the population of Waimano Training School and Hospital is declining, the community service branch of the Developmental Disabilities Division continues its growth. The growth is not attributed to community placements since Waimano has its own community placements via the waivered ICF/MR service option to complement its institutional ICF/MR services. The community growth is attributed to referrals from the community as special education students age out of the Department of Education, expansion of Case Management (CM) into family support services and movement towards a single excess system for services. The numbers indicated do not include those persons receiving services in purchase of service (POS) adult day programs, group homes, or respite services. The data system is being expanded to receive such numbers. There are 781 in POS adult day programs, 81 in group homes, and 305 in respite services. (See Table 1.)

WAIMANO TRAINING SCHOOL AND HOSPITAL

The population of Waimano continues to decline, reflecting the emphasis on deinstitutionalization. Community placements since 1983 have been primarily to the Home & Community Based and the Community ICF-MR programs. These programs are designed to provide more support services for clients. As lower functioning residents are placed in the community, their adaptation to the new environment requires more comprehensive and intense case management, day health programs, habilitation services and respite care.

As community services programs are able to sustain individuals with developmental disabilities/mental retardation in the community, there will be increasing need for short term respite to provide families and care providers some relief. Waimano provides respite services to individuals with Developmental Disabilities for whom respite services in community settings is unavailable. Respite services will contribute to the prevention or delaying of admission to Waimano.

The outlook for Waimano's resident population will continue to show major declines over the next three to five years. Actual placements of residents will depend on the successful development of community programs by private providers, and the Developmental Disabilities Division.

Table 2 shows a population decrease of 33 residents from 202 on July 1, 1988 to 169 on June 30, 1989. There were no new admissions but 25 residents were readmitted.

Table 3 shows that the classification remains about the same as in previous years, with the predominance of residents in the "Profound" category. The placements to the Home & Community Based and Community ICF-MR programs are predominantly at the profound level. The 1989 data reflects a readmission of individuals who are at the severe and moderate levels of retardation.

Figure 1 graphically shows the decline in population at Waimano.

TABLE 1
SERVICE POPULATION BY MEASURED INTELLIGENCE COMMUNITY SERVICES FOR THE DEVELOPMENTALLY DISABLED BRANCH
FISCAL YEAR 1988-1989

Period	Other	Mild	Moderate	Severe	Profound	TOTAL
Start of FY:						
Children in Dx Service	20	3	0	2	0	25
Children in State Operated IDPs	45	140	53	16	5	259
Children in POS Operated IDPs	65	111	49	11	10	246
Former WTSH Clients in CM	20	110	172	198	145	645
Community Referred DD Clients in CM	23	64	85	106	48	326
TOTAL	173	428	359	333	208	1,501
End of FY:						
Children in DX Services	14	3	0	1	1	19
Children in State Operated IDPs	26	155	64	13	1	259
Children in POS Operated IDPs	57	125	62	15	11	270
Former WTSH Clients in CM	21	110	172	198	143	644
Community Referred DD Clients in CM	28	66	103	124	59	380
TOTALS	146	459	401	351	215	1572

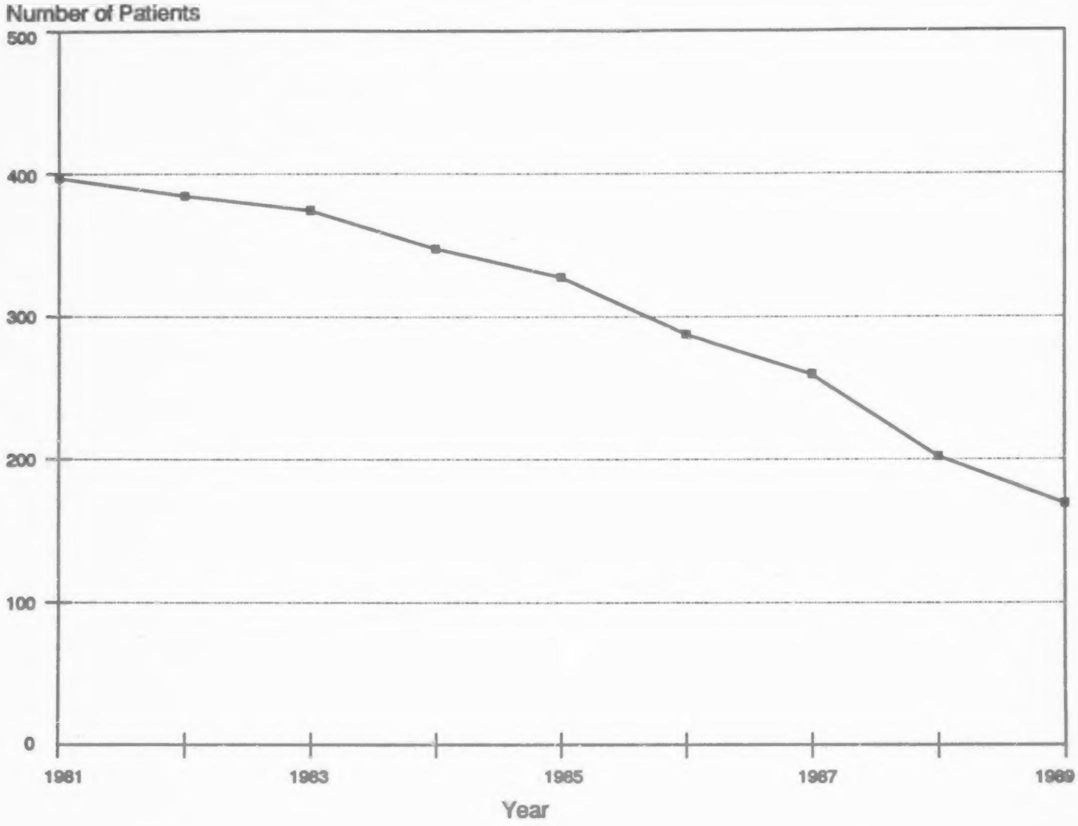
TABLE 2
WAIMANO TRAINING SCHOOL & HOSPITAL
STATISTICAL MOVEMENT OF PATIENTS BY FISCAL YEAR
STATE OF HAWAII: FISCAL 1988-1989

Waimano Population	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Institution									
Patients in residence at start	423	397	385	375	348	328	288	260	202
Patients added during the year	63	53	31	31	12	1	4	4	25
Admissions during the year	7	6	10	2	2	-	-	2	-
Returns from community placement	56	47	21	29	10	1	4	2	25
Patients removed from hospital during the year	89	65	41	58	32	41	32	62	56
Direct discharge	2	-	2	-	-	1	-	-	2
Deaths in hospital	7	8	5	4	7	3	8	6	2
Community placements									
Home & Comm. Based Svcs.	-	-	-	16	16	13	10	10	35
Small ICF-MR	-	-	-	-	-	20	7	32	12
Other comm. placements	80	57	34	38	9	4	7	14	7
Patients in residence at end of year	397	385	375	348	328	288	260	202	169
Respite Days	-	-	-	160	299	282	119	240	378

TABLE 3
RESIDENT POPULATION, WAIMANO, JUNE 30
DISTRIBUTION BY YEAR AND MEASURED INTELLIGENCE
STATE OF HAWAII: FISCAL YEAR 1988-89

	Resident Waimano Population on June 30								
Intelligence	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total	397	385	375	348	328	288	260	202	169
I. Mild	10	13	12	8	7	6	7	5	6
II. Moderate	29	26	26	25	23	21	20	18	23
III. Severe	53	53	59	58	51	40	32	29	39
IV. Profound	305	293	278	257	247	221	201	150	101
Borderline	-	-	-	-	-	-	-	-	-
Undetermined Intelligence	-	-	-	-	-	-	-	-	-

FIGURE 1
RESIDENT POPULATION AT WAIMANO HOME
1981-1989



ENVIRONMENTAL HEALTH

ADMINISTRATION

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CLEAN AIR BRANCH

SUMMARY

The Clean Air Branch of the Environmental Management Division is responsible for implementing and maintaining the statewide Clean Air Program through services which include engineering analysis and permitting; monitoring and investigations; and enforcement of the Federal Clean Air Act, Chapter 342-B, Hawai'i Revised Statutes, and Hawai'i Administrative Rules, Title 11, Chapters 11-59, Ambient Air Quality Standards, and 11-60, Air Pollution Control.

The major functions of the branch include:

AHERA Program -Asbestos Abatement:
1. Reviewing and approving management plans for asbestos removal in schools.
2. Conducting pre-demolition inspections to insure all asbestos is removed prior to building demolition.
3. Conducting inspections to assure proper transportation and disposal of asbestos material.

Engineering Section:
1. Reviewing applications and writing permits for air pollution sources.
2. Evaluating the potential impacts of air pollution sources on the ambient air through the use of mathematical models.
3. Observing source tests to determine compliance with applicable laws, rules, and permit conditions.
4. Compiling and developing a statewide emission inventory on air pollution sources.

Enforcement and Monitoring sections:
1. Identifying sources of pollution through area surveillance, routine inspections, and investigation of complaints.
2. Reviewing applications and issuing permits for agricultural burning activities.
3. Instituting corrective actions through conferences, administrative hearings, or court actions.
4. Conducting recertification classes for visible emission evaluation.
5. Evaluating public health significance of pollutants and determining compliance with rules and permit conditions through inspections, ambient sampling and special studies.

In the AHERA Program, the compliance rate for submission of school asbestos removal management plans by Local Educational Agencies (LEAs) is 100%. The following table presents a breakdown of the number of Asbestos Management Plans on file for public review.

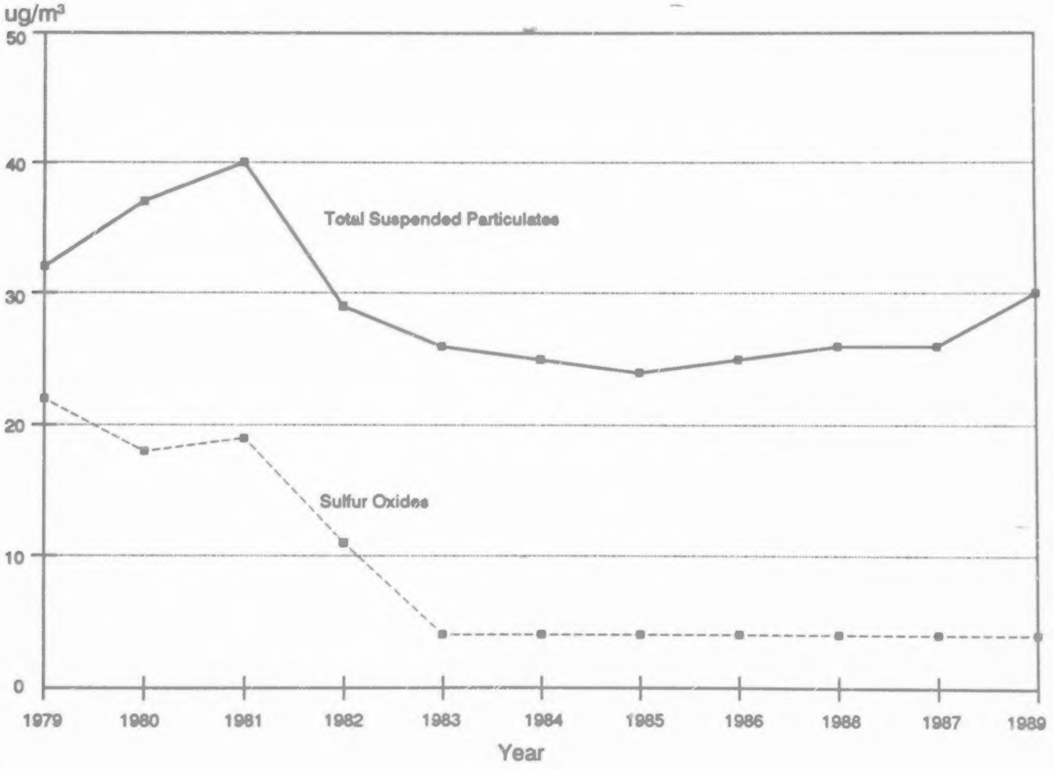
Schools	No. of Plans
DOE Public Schools	
Oahu: Honolulu	66
Central	41
Windward	30
Leeward	37
Hawaii	37
Maui	30
Kauai	17
Total	258
Private Schools	
Oahu	101
Hawaii	22
Maui	14
Kauai	7
Total	144
Total Schools (Public and Private)	402

The primary objective of the Engineering Section is to safeguard the ambient air quality of the state through the issuance of permits for stationary sources of air pollution. The two types of air permits are the Authority to Construct (ATC) and the Permit to Operate (PTO).

Under an agreement between the U. S. Environmental Protection Agency (EPA) and the Department of Health, the section also administers the source review provisions of the Federal Prevention of Significant Deterioration (PSD) rules, and implements certain categories of the Standards of Performance for New Stationary Sources (NSPS) and the National Emission Standards for Hazardous Air Pollutants (NESHAPS). An engineering consultant, contracted through EPA, assists with the extensive and time consuming review of the PSD applications. The total number of permits issued for air sources in the 1989 calendar year are as follows:

Authority to Construct Permits	48
Permits to Operate	57
Total	105

FIGURE 1
TRENDS OF TOTAL SUSPENDED PARTICULATES AND
SO_x IN THE AMBIENT AIR (ANNUAL ARITHMETIC MEANS)
DOWNTOWN, HONOLULU 1979-1989



CLEAN AIR BRANCH

Date	TSP ug/m^3	SO$_x$ ug/m^3
1979	32	22
1980	37	18
1981	40	19
1982	29	11
1983	26	<5
1984	25	<5
1985	24	<5
1986	25	<5
1987	26	<5
1988	26	<5
1989	30	<5

Sampling is conducted approximately 46 ft. above ground on the roof of the State Health Department building, 1250 Punchbowl Street, Honolulu, Hawai'i.

Primary and secondary national ambient air quality standards have been promulgated by the Federal government. Primary standards are designed to prevent adverse effects on public health, while secondary standards are designed to prevent adverse effects on public welfare, including the values, and soiling and deterioration of materials. The standards for total suspended particulates (TSP) and sulfur oxides (SO$_x$) for the annual mean values are as follows:

	TSP(ug/m^3)	SOx(ug/m^3)
Primary standard	75	80
Secondary standard	60	

TABLE 1
SUMMARY OF AIR QUALITY DATA
1989
(24-Hour Sampling)

Sampling Stations	Micrograms per Cubic Meter (ug/m^3)							
	Total Suspended Particulates				Sulfur Dioxide			
	No. of Samples	Annual Minimum	Annual Maximum	Arith. Average	No. of Samples	Annual Minimum	Annual Maximum	Arith. Average
Barbers Point - Oahu a/	58	10	44	26	53	<5	20	<5
Downtown, Honolulu - Oahu	59	16	48	30	52	<5	8	<5
Pearl City - Oahu a/	47	8	21	15	-	-	-	-
Liliha - Oahu	58	23	60	32	-	-	-	-
Waimanalo - Oahu	26	15	57	25	-	-	-	-
Kihei - Maui a/ b/	37	6	38	22	39	<5	<5	<5
Lahaina - Maui a/ b/	39	6	25	14	-	-	-	-
Lihue - Kauai a/	47	8	34	17	-	-	-	-

Notes:

a/ Particulate data from PM$_{10}$ samplers (measuring inhalable particulates of less than 10 ¯).

b/ Kihei and Lahaina represent nine (9) months of data.

TABLE 2
AIR QUALITY IN DOWNTOWN, HONOLULU:
1979-1989

[Annual arithmetic means, in micrograms per cubic meter, for total suspended particulates and sulfur oxides. Sampling is conducted about 46 feet above ground on the roof of the State Health Department building, 1250 Punchbowl Street, Honolulu, Hawaii.]

Year	Particulates	Sulfur Oxides	Year	Particulates	Sulfur Oxides
1979	32	22	1986	25	<5
1980	37	18	1987	26	<5
1981	40	19	1988	26	<5
1982	29	11	1989	30	<5
1983	26	<5			
1984	25	<5	Standards:a/		
1985	24	<5	Primary	75	80
			Secondary	60	-

Note:

a/ Primary and secondary national ambient air quality standards have been promulgated by the Federal government. Primary standards are designed to prevent adverse effects on public health, while secondary standards are designed to prevent adverse effects on public welfare, including the effects on comfort, visibility, vegetation, animals, aesthetic values, and soiling and deterioration of materials.

TABLE 3
AIR QUALITY AT SPECIFIED LOCATIONS
1989

[24-hour sampling, in micrograms per cubic meter]

Sampling station	Total suspended particulates			Sulfur dioxide		
	Annual range		Arithmetic average	Annual range		Arithmetic average
	Minimum	Maximum		Minimum	Maximum	
Oahu:						
Barbers Point a/	10	44	6	<5	20	<5
Downtown Honolulu	6	48	30	<5	8	5
Liliha	3	0	2	-	-	-
Pearl City a/	8	21	15	-	-	-
Waimanalo b/	5	57	25	-	-	-
Maui:						
Kihei a/, c/	9	38	22	<5	<5	<5
Lahaina a/, d/	6	25	14	-	-	-
Kauai:						
Lihue a/	8	34	17	-	-	-

Notes:

a/ Particulate data from PM_{10} samplers (measuring inhalable particulates of less than 10 micrograms).

b/ Six months of data.

c/ Eight months of data.

d/ Nine months of data.

CLEAN AIR BRANCH

TABLE 4
SOURCES OF AIR POLLUTANT EMISSIONS, BY COUNTIES
1989

[Percent distributions for the sums of weights of sulfur oxides, particulate matter, carbon monoxide, hydrocarbons, and nitrogen oxide emissions]

Source	State Total	Hawaii	Honolulu	Kauai	Maui
All sources	100.0	100.0	100.0	100.0	100.0
Transportation	43.0	38.1	47.4	40.6	35.8
Motor vehicles	40.1	36.2	43.9	35.7	33.1
Aircraft	2.3	1.1	2.9	2.3	1.6
Vessels	0.6	0.8	0.6	2.6	1.1
Fuel combustion in					
Stationary sources	29.7	34.9	26.7	32.2	35.3
Steam electric	23.1	19.8	24.6	18.5	22.4
Gas utilities	0.1	(N)	0.1	(N)	(N)
Agricultural fuel	6.5	15.1	2.0	13.7	12.9
Industrial process losses	14.6	7.7	20.3	3.2	3.5
Refinery	4.8	(N)	6.5	(N)	(N)
Petroleum storage	0.7	1.1	0.8	(N)	0.5
Metallurgical	0.1	(N)	0.1	(N)	(N)
Mineral products	6.9	3.9	10.8	0.9	1.1
Off-highway const., farms and industries	2.1	2.7	2.1	2.3	1.9
Municipal incinerator	0.9	(N)	1.3	(N)	(N)
Agricultural burning	11.7	19.3	4.3	24.2	25.4

Notes:
(N) Less than 0.05 percent.

CLEAN WATER BRANCH

SUMMARY

The Clean Water Branch is responsible for administering the water pollution program in the State.

Under Federal and State laws, no person can discharge pollutants into a waterway from a point source unless a permit is obtained from the Department, which regulates what may be discharged and how much. Point sources include private and public wastewater treatment facilities, manufacturing plants, agriculture, wholesale, retail and other commercial establishments. Those obtaining permits comply with firm, legally enforceable requirements to meet applicable State laws. At present, the Department administers 78 National Pollutant Discharge Elimination System (NPDES) permits and 30 Zones of Mixing.

The Department currently administers a General Pretreatment Program in accordance with the U.S. Environmental Protection Agency (EPA) guidelines. This program controls wastewater discharges into municipal sewer systems. This program was approved for the City and County of Honolulu during 1982.

The Section 401 Water Quality Certification Program requires that under Section 401 of the Clean Water Act (CWA) of 1977, construction or operation of facilities which may result in any discharge into navigable waters shall provide the licensing or permitting agency a certification from the State that the discharge will comply with the applicable provisions of Sections 301, 302, 303, 306 and 307 of the CWA and applicable State Water Quality Standards. The Department has been designated the State certifying agency.

TABLE 1
PERMITS ISSUED OR RENEWED
1989

Permits Issued or Renewed (1989 Calendar Year)	
NPDES	8
Zone of Mixing	4
Section 401 Water Quality Certification	5

The enforcement program is the key vehicle through which water pollution laws and rules are implemented. Facility inspections dealing with operation and maintenance are part of the State's program of pollution prevention.

CLEAN WATER BRANCH

TABLE 2
WATER POLLUTION ENFORCEMENT CASES
1989

DOCKET NO.	FACILITY	PENALTIES ASSESSED	COLLECTED
89-PIE-EOW-18	C&C Honolulu, Sand Island WWTP	-0-	-0-
89-PIE-EOW-21	C&C Honolulu, Kaneohe WWTP	$200,000	a/
89-PIE-EOW-24	Olokele Sugar Company	$ 2,000	$ 2,000
89-PIE-EOW-25	Kekaha Sugar Company	$ 2,000	$ 2,000
89-PIE-EOW-26	C&C Honolulu, Kailua WWTP	$110,000	a/
89-CW-EOW-1	BYU, Laie WWTP	$ 20,000	Pending
89-CW-EOW-2	Grove Farm Company	$ 1,000	$ 1,000
89-CW-EOW-3	C&C Honolulu, Enchanted Lakes SPS	$ 50,000	$ 72,600
89-CW-EOW-4	Kaneohe MCAS, Skeet Range	-0-	-0-
89-CW-EOW-5	C&C Honolulu, Kaneohe WWTP	$ 6,000	Pending
89-CW-EOW-6	C&C Honolulu, Honouliuli WWTP	$440,000	Pending
89-CW-EOW-7	Oahu Sugar Company	$ 1,500	$ 1,500
	Total	$832,500	$239,100

Note: a/ $160,000 combined penalties collected

The water quality monitoring program is responsible for preserving and improving the quality of the environment throughout the State. All of the State's major recreational sites are monitored regularly for compliance with the State's Water Quality Standards.

TABLE 3
WATER QUALITY ON PUBLIC BEACHES
1989

BEACHES	NUMBER OF SAMPLES	ENTEROCOCCI DENSITY GEOMETRIC MEANS (No./100 ml)a/
OAHU:		
Ala Moana Bridge	38	119.7
Ala Moana Park (Center)	12	1.8
Ala Moana Park (Diamond Head End)	24	2.8
Ala Moana Park (Ewa End)	30	1.4
Elk's Club Beach	11	1.1
Ewa Beach Park	21	1.8
Ft. DeRussy Beach	9	1.7
Gray's Beach	28	2.1
Hanauma Bay	29	8.3
Heeia Kea Small Boat Harbor	16	1.8
Kaelepulu Stream	26	13.7
Kahala Beach	1	16.8
Kahana Beach Park	10	7.8
Kahanamoku Beach	22	3.9
Kahanamoku Lagoon (Diamond Head)	28	3.3
Kaiaka Bay	13	5.1
Kailua Bay Outfall (Shoreline)	20	0.8
Kailua Beach Park	26	4.2
Kalama Beach	27	2.6
Kaneohe Bay (Central Region)	2	0.5
Kaneohe Bay (Northern Region)	2	0.5
Kaneohe Bay (Southern Region)	3	8.1
Kawela Bay	13	5.1
Kewalo Basin	1	1.2
Kokokahi Pier	18	17.1
Kuhio Beach	22	4.9
Mamala Bay (Sand Island Off Shore)	9	0.6
McCully Street Bridge	27	105.2
Oneawa Beach	26	2.6
Public Bath Beach	25	1.6
Sand Island Point #1	1	1.6
Sand Island Point #2	13	2.6
Sand Island Point #3	22	1.8
Sand Island Point #4	1	3.2
Tavern Beach	9	1.1
Waimanalo Bay	25	2.3
Waimanalo Beach	27	1.7
Waimanalo Surfers' Beach	17	1.2
LANAI:		
Hulopoe Bay	2	6.5
Manele Small Boat Harbor	2	52.1

Note at Bottom of Table.

CLEAN WATER BRANCH

TABLE 3 (Cont.)
WATER QUALITY ON PUBLIC BEACHES
1989

BEACHES	NUMBER OF SAMPLES	ENTEROCOCCI DENSITY GEOMETRIC MEANS (No./100 ml)a/
MOLOKAI:		
Kalaeloa Harbor	2	6.3
Kaunakakai Harbor	2	26.4
MAUI:		
Fleming Beach	3	1.1
Hale Onoloa Condominium Shore	4	1.6
Hana Bay	2	4.2
Honomanu Bay	2	6.5
Hukilau Hotel Shoreline	8	1.1
Kaa Shoreline	4	0.9
Kahului Bay	4	0.7
Lahaina Outfall	1	0.7
Lahaina Small Boat Harbor	3	13.0
Maalaea Small Boat Harbor	2	1.4
Mahinahina Condominium Shoreline	4	0.8
Makena Beach	4	0.7
Mala Wharf	2	42.5
Olowalu Shore Front	2	5.9
Paia Outfall	4	1.7
Seven Pools	2	16.7
Sheraton Kaanapali Shoreline	5	0.8
Waiehu Stream Mouth	4	3.8
Waihee Farm Shoreline	3	1.1
Wailuku Breakwater	3	2.3
KAUAI:		
Anahola Bay Pavilion	4	20.2
Anini Park Pavilion	4	6.0
Brennecke Beach	5	1.9
Hanalei Bay Landing	1	3.5
Hanalei Bay Pavilion	3	4.4
Hanamaulu Beach (Middle)	5	62.7
Hanapepe Salt Pond	5	1.9
Kalapaki Beach (Middle)	5	21.8
Kapaa Pavilion	4	1.9
Kealia Beach	4	0.9
Kekaha (Oomano Point)	5	0.8
Poipu Beach Pavilion	5	2.2
Port Allen Pier	3	0.7
Wailua Beach (North End)	4	4.7
Wailua River	4	150.3
Waimea Bay	3	4.9
Waimea Bay Beach (near river)	1	0.7
West of Lydgate Park Wading Pool	4	3.3

Note at Bottm of Table.

TABLE 3 (Cont.)
WATER QUALITY ON PUBLIC BEACHES
1989

BEACHES	NUMBER OF SAMPLES	ENTEROCOCCI DENSITY GEOMETRIC MEANS (No./100 ml)a/
HAWAII (Hilo):		
Coconut Island	1	5.0
Exit of Ice Pond	10	6.4
Hilo Bay (Boat Landing)	3	0.7
Hilo Bay (Lighthouse)	3	5.2
Hilo Bay (Mooheau Park)	3	3.4
Hilo Bay (Off Shore)	19	2.0
Honolii Cove (Ocean)	1	48.5
Kolekole Gulch (Stream)	3	138.9
Leleiwi Beach Park	10	11.5
Onekahakaha Beach (Swimming Area)	10	5.3
Puhi Bay #3	10	2.5
Richardson Ocean Center	10	8.4
HAWAII (Kona):		
Banyan's Surfing Area	6	1.9
Hapuna Beach	12	1.5
Kahaluu Beach	12	1.0
Kailua Pier Station A	6	1.0
Kailua Pier Station B	6	1.3
Kailua Pier Station C	6	1.2
Kealakekua Bay (off canoe landing)	12	1.1
Kealakekua Bay (off curio stand)	12	1.5
Magic Sands Beach	12	1.0
Puako Beach Lots (far end of lot)	12	4.7
Puako Beach Lots (middle of lot)	12	2.2
Spencer Beach Park	12	6.5

Note:

a/ The standard for Enterococci density is given in Section 11-54-08 of the Administrative Rules of the Department of Health.

SAFE DRINKING WATER BRANCH

SUMMARY

The Safe Drinking Water Branch was established in 1989 from the former Drinking Water Program. While retaining all of its former responsibilities, the Branch is now responsible for the administration of substantial new initiatives in drinking water monitoring and treatment. In addition to regulation of public water systems, the Branch has been assigned the responsibility of administering the state's Underground Injection Control Program, and to fulfill the groundwater monitoring function of the State's Groundwater Protection Program.

In 1989, the Safe Drinking Water Branch was able to institute monitoring for approximately 40 additional organic chemicals. These chemicals, known as unregulated chemicals, are being monitored to determine if they may be a problem in public water systems. As scheduled, large and medium sized systems are monitored quarterly this year, and small systems (less than 3,300) will be monitored in 1990.

The Underground Injection Program regulates the disposal of waste through underground wells. The state program has identified specific areas where this activity can take place, and restricts the type of waste that can be disposed of in this manner. The intent of the UIC Program is to protect existing and potential sources of potable water, and therefore is an important part of our overall groundwater protection efforts. The Program requires the permitting of underground injection wells, monitoring, reporting, and enforcement against violators of the permit conditions.

TABLE 1
PUBLIC WATER SYSTEMSa/
1989

	ISLAND				
SYSTEMS	State Total	Hawaii	Maui	Oahu	Kauai
Municipal Systems	55	22	11	8	15
Private Systems	67	14	15	20	9
State Systems	13	2	5	6	4
Federal Systems	28	3	4	18	2
Total	163	41	35	52	30
Sanitary Surveysb/	47	9	8	22	8

Notes:

a/ A Public Water System is defined as a system that has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days out of the year.

b/ A Sanitary Survey is an on-site inspection of a public water system by Department personnel using standard procedures to determine the effectiveness of the operation and maintenance of the system in providing safe water to the consuming public.

SOLID AND HAZARDOUS WASTE BRANCH

SUMMARY

The Solid and Hazardous Waste Branch is divided into three sections: Solid Waste and Engineering, Hazardous Waste, and Underground Storage Tank. The Solid Waste and Engineering section is responsible for regulating the disposal of solid wastes including used oil and lead acid batteries. The role of Hazardous Waste section is to regulate all aspects of the management of a hazardous waste from the time it is generated to the time it is finally disposed of properly. The Underground Storage Tank section oversees the compliance of owners and operators of underground storage tanks (UST's) containing petroleum and hazardous substances with the federal and state UST regulations. A primary function of this section includes the oversight of soil and groundwater clean up due to leaking tanks.

TABLE 1
SUMMARY OF BRANCH ACTIVITIES
1989

ACTIVITY	
Solid Waste and Engineering	
Number of permits issued/reviewed/closed	43
Number of complaints including used oil	150
Hazardous Waste	
Number of inspections	50
Number of non-compliance follow-ups	25
Underground Storage Tank (UST)	
Number of UST's facilities	1931
Number of UST facility monitoring actions	582
Number of technical assistance efforts	629

SANITATION BRANCH

SUMMARY

The principal activity of the Sanitation Branch is to maintain a sanitary and healthful environment for the people of Hawai'i by providing inspectional, educational and enforcement activities. Sanitarians investigate and abate health nuisances and minimize insanitary conditions which may be a threat to health. Inspections are made of food and food service establishments; milk plants; frozen dessert manufacturing plants; dairy farms; dwelling units, hotels and other multi-dwelling units; public swimming pools; barber shops; mortuaries and cemeteries; laundries; private sewage disposal systems and various other premises for certificates of approval, clearances for licensure or for permit issuance; and for compliance with public health standards and requirements.

The Sanitation Branch has streamlined its food establishments and restaurants inspection program by converting its outdated manual record keeping system to an automated electronic database system. This system was installed to assist the program in responding to ever increasing demands for certification, licensure, inspection, and surveillance of program activities. This system would ultimately benefit the program by enhancing the ability of the field personnel to spend a greater amount of time addressing problems in the field and also allowing time for the management/supervisory personnel to monitor field personnel.

The 1989 Legislature allocated resources to provide the food services industry with a statewide Pilot Voluntary Foodhandler's Education and Certification Program to ensure protecting the public from food-borne illnesses. The educational program is evolving around an experienced core group consisting of a sanitarian-microbiologist, a food sanitarian, a former epidemiological specialist (now a sanitarian), and an entomologist-sanitarian. Since the core trainers are, or were, involved in the investigational or inspectional aspects of food safety, they can readily identify and illustrate food safety concerns to the food handlers. Despite difficulties in establishing the positions allocated by the Legislature, the program has proceeded and has conducted eight (8) ten-hour certifications workshops and 28 one to three hour classes for 809 foodhandlers, food and beverage managers, and students. It has become apparent that the hotel and restaurant industries and the Department of Education support this new program.

As a result of reorganization in July, 1989, the Sanitation Program established a program goal to develop, establish, and implement a uniform and consistent inspectional and enforcement program that is based on standards and incorporates defined quality assurance methods.

TABLE 1
AVERAGE DAILY PRODUCTION OF PASTEURIZED MILK BY ISLAND[a]
STATE OF HAWAII, 1989

ISLAND	AVERAGE DAILY PRODUCTION (Pounds)[b]
OAHU	318,734
HAWAII	47,308
MAUI[c]	—
KAUAI	51,768

Notes:

[a] No retail raw milk is sold for human consumption in the state.

[b] 2.5 pounds = 1 quart.

[c] Includes the islands of Molokai and Lanai.

TABLE 2
DAIRIES AND MILK PLANTS AS OF DECEMBER 31, 1989
BY TYPE AND ISLAND

		ISLAND			
TYPE	TOTAL	OAHU	HAWAII	MAUI[a]	KAUAI
Pasteurization Plants	6	2	2	4	1
Milk Plant Producers	22	15	5	1	1

Note: [a] Includes the islands of Molokai and Lanai

SANITATION BRANCH

TABLE 3
DISTRIBUTION OF SANITARY INSPECTIONS BY TYPE AND ISLAND
STATE OF HAWAII, 1989

TYPE OF INSPECTION	TOTAL	ISLAND			
		OAHU	HAWAII	MAUI a/	KAUAI
TOTAL INSPECTIONS	60055	31187	8680	8455	11733
Dwellings	4968	1053	69	472	3374
Apartments	410	308	58	42	2
Hotels	488	281	35	118	54
Lodging Houses	34	30	3	1	0
Tenements	40	39	0	1	0
Boarding Houses	40	33	5	2	0
Adult Family Boarding Homes	3	2	0	1	0
Care Homes	557	478	38	14	27
Day Care Centers	347	223	63	25	36
Kindergartens, Schools	434	133	58	148	95
Institutions, Hospitals	489	21	2	452	14
Funeral Establishments, Cemeteries	56	22	13	9	12
Liquor Dispensers	2416	1859	219	253	85
Grocery Stores	4013	2771	458	429	355
Markets	1188	821	68	202	97
Bottling Plants, Canneries	68	21	13	32	2
Food Manufacturers	3636	2489	362	501	284
Restaurants, Cafeterias, Drive-Ins, Lunch Counters, etc.	11420	8018	826	1140	1436
Food Sales	2200	1258	202	440	300
Lunch Wagons	1064	950	29	33	52
Food Peddlers	931	904	12	4	11
Dairy Farmers, Milk Plants	1066	583	280	105	98
Frozen Dessert Plants	157	63	12	77	5
Dispensing Freezers, Shave Ice Outlets	630	82	170	129	249
Vending Machine Operations	1	0	1	0	0
Warehouses	1057	823	89	80	65
Hog Ranches, Poultry Farms, Feed Lots	345	200	19	26	100
Slaughterhouses	16	0	3	4	9
Vegetable Gardens	45	0	23	0	22
Flower Gardens	3	3	0	0	0
Shops, Beauty Parlors	706	462	62	56	126
Massage Parlors, Reducing Salons	162	80	19	24	39
Tattoo Shops	177	164	4	8	1
Clothes Cleaners, Laundries	77	59	2	8	8
Secondhand Dealers	0	0	0	0	0
Mattress Makers	0	0	0	0	0
Amusement Places, Parks, Playgrounds	398	73	16	249	60
Recreational Trailer Camps	0	0	0	0	0
Industrial Plants, Small Shops, General Merchandise	1122	57	30	875	160
Swimming Pools	793	403	23	194	173
Household Sewage Disposal Systems, House Drain, Sewer	8995	2503	3092	1275	2125
Subdivisions	873	151	2	285	435
Unclassified	8630	3767	2300	741	1822

Note: a/ Includes the islands of Molokai and Lanai.

TABLE 4
SUMMARY OF ACTIVITIES BY SANITARIAN
STATE OF HAWAII, 1989

ACTIVITY	TOTAL	ISLAND			
		OAHU	HAWAII	MAUI a/	KAUAI
A. Inspection, Investigation, Enforcement					
1. Insanitary Practices & Hazardous Conditions Abated					
Structures Repaired	143	130	1	2	10
Plumbing, Fixtures Repaired	52	32	0	8	12
Water Supply Violations Corrected	27	25	0	2	0
Sewage Disposal Violations Corrected	848	109	286	342	111
Ventilation Corrected	31	7	0	9	15
Floor, Walls, Ceiling Cleaned	105	100	0	4	1
Streets, Alleyways, Yards Cleaned of Rubbish, etc.	74	66	0	1	7
Garbage Containers, Conveyances Corrected	94	75	1	10	8
Domestic Animals, Poultry Nuisances Abated	123	82	3	15	23
Vermin, Rodent, Birds, Animal Nuisances Abated	58	54	0	2	2
Food Equipment Replaced, Repaired	46	45	0	1	0
Food Equipment, Utensils Cleaned	131	131	0	0	0
Food Equipment, Utensils Sanitized	29	29	0	0	0
Food Equipment, Utensils Properly Stored, Handled	164	163	0	1	0
Food Storage, Display, Handling Corrected	284	281	0	2	1
Insanitary Personnel Practices Abated	97	96	0	0	1
Food Handlers' Certificate Obtained	10	4	0	6	0
Toilet Room and Facilities Cleaned, Repaired	99	95	1	2	1
Barber, Beauty Shop Instruments Cleaned, Sanitized	16	16	0	0	0
Swimming Pool Disinfected; pH Maintained	47	41	0	3	3
Depth Marking Violations Corrected	13	6	0	0	7
Bacteriological Standards Met	2	0	0	2	0
Abnormal Milk Excluded	0	0	0	0	0
Milking Procedures Corrected	11	0	11	0	0
Thermometric Controls in Compliance	40	39	1	0	0
Pressure Differential of Pasteurizer Met	3	3	0	0	0
Holding Time of Pasteurizer Met	0	0	0	0	0
Required Data on Recorder-Controller Charts Furnished	5	3	2	0	0
Miscellaneous Nuisances Abated	333	269	8	6	50
Total Corrections Made	2885	1901	314	418	252
2. Field Test for Cl, pH, Alk., Sed., Abnormal Milk	3449	580	1222	1018	629
3. Samples Collected: Milk, Food, Water, Swabs, etc.	4653	771	1982	1053	847
4. Complaints Investigated	3249	2254	199	182	614
Warning Given	325	193	110	1	21
Verbal Orders Given	3469	2298	462	499	210
Verbal Orders Finished	2420	1405	332	453	230
Total Orders Unfinished	12320	6735	1922	3555	108
Written Orders Given	95	77	8	9	1
Written Orders Finished	81	75	2	3	1
Total Written Orders Unfinished	342	155	44	142	1
5. Certificates Issued	1679	1404	14	248	13
6. Permits Issued	496	285	2	134	75
7. Permits Degraded	0	0	0	0	0
8. Permits Suspended, Revoked	0	0	0	0	0
9. Prosecutions	3	3	0	0	0
B. Education					
1. Food, Milk Handlers' Class	29	21	4	1	3
2. Workshops, Meetings	323	78	91	66	88
3. In-Service Training	64	13	21	15	15
Technical Review and Consultation Provided	13390	2580	5490	734	4586

Note: a/ Includes the islands of Molokai and Lanai.

TABLE 5
DAILY SUMMARY OF FOOD SERVICE AND FOOD ESTABLISHMENTS STATE OF HAWAII, 1989

ACTIVITY	TOTAL	ISLAND			
		OAHU	HAWAII	MAUIa/	KAUAI
INSPECTION, INVESTIGATION, ENFORCEMENT					
A. Insanitary Practices and Hazardous Conditions Abated					
1. Food Source, Wholesome	326	62	11	247	6
2. Food–Original Container, Properly Labeled	252	136	51	60	3
3. Potentially Hazardous Food Meets Temperature Requirements	389	260	25	98	6
4. Facilities to Maintain Product Temperature	154	82	8	56	8
5. Thermometers Provided and Conspicuous	449	328	60	54	7
6. Potentially Hazardous Food Properly Thawed	246	160	13	73	0
7. Unwrapped and Potentially Hazardous Food Not Re-served	55	10	2	43	0
8. Food Protection–Storage, Preparation, Display, Service, Transportation	1091	861	86	138	6
9. Handling of Food (Ice) Minimized	198	118	10	70	0
10. Food (Ice) Dispensing Utensils Properly Stored	402	259	32	108	3
11. Personnel Infections, Communicable Disease Restricted; T.B.Clearance Card	96	50	3	43	0
12. Hands Washed & Clean, Good Hygienic Practice	307	218	34	53	2
13. Clean Clothes, Hair Restraints	485	329	40	112	4
14. Food Contact Surfaces: Designed, Constructed, Maintained, Installed	456	303	56	91	6
15. Non-Food Contact Surfaces: Designed, Constructed, Maintained, Installed	438	254	83	97	4
16. Dishwashing Facilities: Designed, Constructed, Maintained, Installed	163	84	14	65	0
17. Accurate Thermometers	67	9	8	50	0
18. Single Service Articles, Storage, Dispensing	171	121	4	43	3
19. No Re-Use of Single-Service Articles	54	6	2	46	0
20. Pre-flushed, Scraped, Soaked	96	15	13	68	0
21. Wash, Rinse Water: Clean, Proper Temperature	199	116	18	64	1
22. Sanitization Rinse: Clean, Temperature, Concentration	656	399	73	183	1
23. Wiping Cloths: Clean, Use Restricted	405	238	44	123	0
24. Food-Contact Surfaces of Equipment and Utensils Clean	725	601	48	71	5
25. Non-Food Contact Surfaces of Equipment & Utensils Clean	603	502	34	64	3
26. Storage, Handling of Clean Equipment-Utensils	187	115	8	62	2
27. Water Source, Safe: Hot & Cold Under Pressure	212	139	11	57	5
28. Sewage and Waste Water Disposal	94	31	3	58	2
29. Plumbing–Installed, Maintained	277	171	25	81	0
30. Plumbing–Cross-Connection, Back Siphonage, Backflow	107	45	12	49	1
31. Toilet & Handwashing Facilities–Number, Convenient, Accessible, Installed	297	176	26	83	12
32. Toilet Rooms, Self-Closing Doors, Good Repair, Clean Hand Cleanser, Sanitary Hand-Drying, Proper Waste Receptacles	797	560	90	139	8
33. Garbage & Refuse Disposal Receptacles Covered: Adequate No., Insect/Rodent Proof, Clean	191	111	6	72	2
34. Outside Storage Area, Enclosures Properly Constructed, Clean: Incineration Controlled	103	46	3	53	1
35. Presence of Insects, Rodents–Outer Openings Protected, Turtles, Other Animals, Proper Insecticides	824	620	71	124	9

Note is at the bottom of the table.

TABLE 5 (Cont.)
DAILY SUMMARY OF FOOD SERVICE AND FOOD ESTABLISHMENTS
STATE OF HAWAII, 1989

ACTIVITY	TOTAL	ISLAND			
		OAHU	HAWAII	MAUI a/	KAUAI
INSPECTION, INVESTIGATION, ENFORCEMENT (Cont.)					
A. Insanitary Practices and Hazardous Conditions Abated (Cont.)					
36. Floors: Constructed, Drained, Clean, Good Repair, Covering Installation, Dustless Cleaning Method	760	548	57	151	4
37. Walls, Ceiling, Attached Equipment: Constructed, Good Repair, Clean, Surfaces, Dustless Cleaning Methods	772	566	56	141	9
38. Lighting Provided as Required	185	80	33	70	2
39. Rooms and Equipment–Vented as Required	173	93	10	68	2
40. Dressing Rooms–Rooms Clean, Lockers Provided, Facilities Clean	158	95	13	50	0
41. Toxic Items Properly Stored, Labeled, Used	599	397	91	109	2
Premises: Maintained, Free of Litter, Unnecessary Articles, Cleaning/Maintenance Equipment Properly Stored, Authorized Personnel	332	246	30	47	9
43. Complete Separation from Living/Sleeping Quarters, Laundry	10	8	1	1	0
44. Clean, Soiled Linen Properly Stored	24	21	3	0	0
Total Corrections Made	14585	9591	1321	3535	138
B. Field Test for Cl, pH, Alk, etc.	599	399	49	70	81
C. Samples Collected: Food, Water, Swabs, etc.	430	153	73	22	182
Complaints Investigated	1260	980	65	64	151
E. Orders and Warnings					
Warnings Given	3221	2576	598	28	19
Verbal Orders Given	12578	8871	1840	1653	214
Verbal Orders Finished	11692	6804	1214	3535	139
Total Verbal Orders Unfinished	103194	64459	4191	33706	838
Written Orders Given	59	57	1	1	0
Written Orders Finished	60	59	0	1	0
Total Written Orders Unfinished	265	239	9	12	5
F. Certificates Issued	5902	5056	66	779	1
G. Permits Issued	1432	998	212	178	44
H. Permits Suspended, Revoked	20	9	6	2	3
I. Prosecutions	0	0	0	0	0
EDUCATION					
A. Food Handlers' Class	89	29	55	4	1
B. Workshops, Meetings	122	69	30	18	5
C. In-Service Training	72	33	24	12	3
TECHNICAL REVIEW AND CONSULTATION PROVIDED	3224	1141	759	295	1029

Note: a/ Includes the islands of Molokai and Lanai

VECTOR CONTROL BRANCH

SUMMARY

The objective of the Vector Control Branch is to prevent outbreaks of vector-borne diseases and serious vector nuisances. This is accomplished through program activities that are designed to control existing vector populations and prevent encroachment of new vector species from abroad.

Table 1 presents the principal activities of the branch. There was a decrease in the number of mosquito breeding acres treated in 1989 compared to the previous year. Due to increasing environmental concerns, more emphasis has been placed on other non-chemical control methods (as bio control).

Table 2 presents the small mammal retrieval data by island and area. The total number of small mammals retrieved in 1989 increased from the previous year. The roof rat (Rattus rattus) was the most common rat species trapped this year.

Table 3 presents a summary of the zoonosis laboratory activities and findings. The number of serological tests conducted this year for murine typhus remained relatively the same as in 1988 but the sera-positive incidence for murine typhus was much lower this year.

Table 4 presents a summary of the applied vector research projects which are conducted to provide the program with a better basis for controlling vectors.

TABLE 1
PRINCIPAL ACTIVITIES OF THE VECTOR CONTROL BRANCH
STATE OF HAWAII, 1989

ACTIVITY	TOTAL	OAHU	HAWAII	MAUI	KAUAI
VECTOR SURVEILLANCE					
Mosquitoes (Lt-trap days)	41,601.00	23,285.00	9,591.00	3,250.00	5,475.00
Small mammals (Trap days)	223,302.00	4,958.00	194,938.00	23,195.00	211.00
Flies (Trap days)	84.00	-	84.00	-	-
Yellowjackets (Trap days)	1,095.00	-	-	-	1,095.00
Others (Trap-Days)	-	-	-	-	-
DOMESTIC VECTOR ABATEMENT					
No. Premises Inspected for Survey	13,485.00	-	11,018.00	2,250.00	217.00
No. Additional Premises Inspected During Complaints	4,486.00	2,552.00	1,141.00	647.00	146.00
Demolition Permits Investigated	960.00	927.00	19.00	8.00	6.00
Total No. of Premises (Grand Total)	22,767.00	5,693.00	13,382.00	3,232.00	460.00
Complaints Investigated	3,948.00	2,214.00	1,184.00	470.00	80.00
Small mammals	1,944.00	975.00	694.00	237.00	38.00
Mosquitoes	568.00	457.00	49.00	51.00	11.00
Flies	191.00	100.00	68.00	12.00	11.00
Cockroaches	60.00	28.00	6.00	25.00	1.00
Fleas	166.00	114.00	15.00	34.00	3.00
Ticks	16.00	11.00	-	5.00	-
Mites	82.00	64.00	8.00	6.00	4.00
Wasps	178.00	9.00	131.00	35.00	3.00
Bees	202.00	28.00	127.00	40.00	7.00
Other	541.00	428.00	86.00	25.00	2.00
AREA VECTOR ABATEMENT					
Mosquito breeding areas (acres inspected)	28,762.99	6,738.03	2,125.10	8,888.22	11,011.64
Mosquito breeding areas (acres treated)	2,993.12	394.80	19.54	1,323.61	1,255.17
Mosquito breeding sites & containers					
No. inspected	61,560.00	9,225.00	46,146.00	5,999.00	190.00
No. treated	44,600.00	1,011.00	41,008.00	2,555.00	26.00
Mosquito Bio-Control (no. fish stocked)	129,532.00	40,257.00	7,650.00	62,825.00	18,800.00
Vector areas treated (acres)	5,845.10	440.68	556.82	3,559.43	1,288.17
CORDON SANITATION					
No. of airport inspections	1,477.00	236.00	818.00	361.00	62.00
No. of harbor/pier inspections	1,640.00	301.00	825.00	514.00	-
No. of rodent bait stations	4,322.00	2,443.00	1,216.00	591.00	72.00
No. of mosquito breeding containers treated	1,130.00	1,128.00	-	2.00	-
EDUCATION AND CONSULTATION					
No. of People Reached	8,615.00	3,881.00	2,839.00	1,152.00	743.00
No. of Vector Identifications	809.00	717.00	56.00	27.00	9.00
No. of Source Reduction Consultations	1,221.00	401.00	32.00	527.00	261.00
APPLIED VECTOR RESEARCH		-			
Completed projects	4.00	4.00	-	-	-
On-going projects	6.00	6.00	-	-	-

TABLE 2
TOTAL SMALL MAMMAL RETRIEVALS BY ISLAND, ACTIVITY, AND SPECIES
STATE OF HAWAII, 1989

				Species								
			Total	Rattus					Mus domesticus		Herpestes auropunctatus	
Island	Activity	Trap Days a/	Small Mammals Retrieved	Total Number	Percent	exulans	norvegicus	rattus	Number	Percent	Number	Percent
HAWAII	Field	95020	8656	3751	43.3%	877	414	2460	3598	41.6%	1307	15.1%
	Cordon	99918	5274	401	7.6%	122	5	274	3045	57.7%	1827	34.7%
	Total	194938	13930	4152	29.8%	999	419	2734	6643	47.7%	3134	22.5%
OAHU	Field	4163	454	144	31.7%	-	11	133	272	59.9%	38	8.4%
	Cordon	795	15	14	93.3%	-	1	13	1	6.7%	-	-
	Total	4958	469	158	33.7%	-	12	146	273	58.2%	38	8.1%
MAUI	Field	2232	503	236	46.9%	21	-	215	267	53.1%	-	-
	Cordon	20963	102	77	75.5%	-	-	77	25	24.5%	-	-
	Total	23195	605	313	51.7%	21	-	292	292	48.3%	-	-
KAUAI	Field	211	12	10	83.3%	5	3	2	2	16.7%	-	-
	Cordon	-	-	-	-	-	-	-	-	-	-	-
	Total	211	12	10	83.3%	5	3	2	2	16.7%	-	-
TOTAL	Field	101626	9625	4141	43.0%	903	428	2810	4139	43.0%	1345	14.0%
	Cordon	121676	5391	492	9.1%	122	6	364	3071	57.0%	1827	33.9%
	Total	223302	15016	4633	30.9%	1025	434	3174	7210	48.0%	3172	21.1%

Note: a/ Trap Days = Number of traps set times number of days trapped

TABLE 3
SUMMARY OF ZOONOSIS LABORATORY ACTIVITIES AND FINDINGS BY AREA STATE OF HAWAII, 1989

ACTIVITY	ISLAND					
	TOTAL	OAHU	EAST HAWAII	WEST HAWAII	MAUI	KAUAI
No. Macroscopic Examinations	8178	558	2072	5425	109	14
Ectoparasites Recovered						
No. Fleas	74	3	-	71	-	-
No. Mites	446	445	-	1	-	-
No. Lice	3	3	-	-	-	-
Serology						
No. Sera for Branch Tests	4100	339	2062	1565	108	26
Plaguea/						
No. Sera Tested	448	117	114	195	9	13
No. Sera Positive (%)	-	-	-	-	-	-
Murine Typhusb/						
No. Sera Tested	3652	222	1948	1370	99	13
No. Sera Positive	21	-	1	-	20	-
(%)	(0.6)	-	(0.1)	-	(20.2)	-
Leptospirosisc/						
No. Cultures Prepared	363	323	...	...	26	14
No. Cultures Positive	27	26	...	...	-	1
(%)	(7.4)	(8.0)	...	...	-	(7.1)
Salmonellac/						
No. Cultures Prepared	319	278	...	...	27	14
No. Cultures Positive	23	21	...	...	-	2
(%)	(7.2)	(7.6)	...	...	-	(14.3)

Notes:

a/ Only animals retrieved from ports of entry and Kauai tested for plague
b/ Only rat sera test by IFA technique
c/ Oahu, Maui, and Kauai only

VECTOR CONTROL BRANCH

TABLE 4
APPLIED VECTOR RESEARCH/TRAINING PROJECTS
STATE OF HAWAII, 1989

Pest Common Name (Scientific Name)	Project Title	Status/Purpose
Dog Dung Fly (Musca sorbens)	Selectivity exhibited by ovipositing M. sorbens in feces from cows fed guinea grass and varying amounts and combinations of rolled corn, rolled barley and high protein pellets.	Completed. This study demonstrated that cows fed rations containing no ground corn would produce feces unattractive to ovipositing M. sorbens.
Dog Dung Fly (Musca sorbens)	Recommendation to alter the present feed formulation at Clover Leaf Dairy to produce cow feces less conducive to fly breeding.	Ongoing. Use of feed supplements without ground corn has drastically reduced fly breeding at this dairy. Observations are continuing to determine whether this result is permanent.
Mongoose (Harpestes auropunctatus)	Rabies outbreak contingency plan.	Completed. Basic research and plans for mongoose eradication during a rabies outbreak is completed. A full scale test of this plan is awaiting EPA approval of the poison to be used in the bait.
Housefly (Musca domestica)	Manure management and its effect on fly breeding at poultry farms.	Ongoing. The unsuitability of fresh manure as a breeding medium caused by the absorption of moisture by old manure left under poultry cages is being studied.
Insecticides	Efficacy testing of new insecticides.	Completed. Methroprene pellets, Cypermethrin, Protamphos, Resmethrin, and an ant bait were tested for possible use on vectors.
Mouse (Mus domesticus)	Mice ecology studies to aid in predicting major mice population explosions that periodically occur on Hawaii, Maui and Oahu.	Ongoing. Several indicators of impending mice explosions have been found. Long term observations are now being conducted to verify their accuracy.
Long-legged ant (Anoplolepis longipes)	Distribution, abundance, and control of the long-legged ant.	Ongoing. Observations of several ant colonies over a long period of time indicated that natural controls are present. Studies to determine the natural controls are continuing.
Midges and gnats	Survey of light attracted, window screen evading insects.	Completed. Small insects that enter homes through window screens were collected and identified. This information will be used to develop an informational brochure for the public.
Mite (Dermatophagoides microceras)	Survey of house dust samples to determine whether this allergen producing mite is present in Hawaii	Ongoing. A study to determine whether this species is being misidentified as its sibling species D. farinae.
Rats	Evaluate and improve rodent control at airports and seaports.	Ongoing. Improve rodenticiding and surveillance methods to prevent entry of diseased foreign rodents into Hawaii.

FOOD AND DRUG BRANCH

SUMMARY

The Food and Drug Branch (formerly the Food Products Section) of the Environmental Health Services Division protects the health of the consumer by ensuring that foods are wholesome; over-the-counter drugs and therapeutic devices are safe and effective; cosmetics are harmless; and that all these products are properly labeled, packaged, and advertised. The Branch is also empowered to require that certain hazardous household products carry adequate label warnings for the safety of children and are packaged with safety closures.

The Food and Drug Branch administers the Hawai'i Food, Drug and Cosmetics Act; the Hawai'i Poison Prevention Packaging act; and the regulations on food and food products, shellfish, milk, frozen desserts, prophylactic devices, and poisons.

The Food and Drug Branch was reorganized to branch section in 1989 with two separate sections:

Consumer Products Section:	responsible for the inspection of food, drug and cosmetic establishments; investigation of consumer complaints; and collection of various specimens for examination to determine conformity with purity, labeling, and identity standards.
Food Contamination Section:	responsible for monitoring of foods for pesticide residues and other chemical contaminants. Four new positions in the section were filled in 1989.

Vacancies in the Food and Drug Branch during a substantial part of the year, then the hiring and training of new inspectors, substantially curtailed productivity especially in the number of general inspections conducted and frozen dessert samples collected.

Investigations and inspections conducted by the branch resulted in the following regulatory actions: recall of cans or soup with potential pinholes; removal/embargo of mislabeled candies/sauces; and removal of misbranded potato chips labeled as being manufactured in Hawai'i but actually produced on the mainland. The branch also assisted in the recall of nationally distributed products including canned mushrooms from the People's Republic of China due to possible bacterial contamination, Chilean fruit suspected of being tainted with cyanide, and L-tryptophan, a manufactured over-the-counter amino acid which was suspected of causing eosinophilia-myalgia, a serious human blood disorder.

The branch's long awaited revised milk regulation was adopted during the year.

FOOD AND DRUG BRANCH

TABLE 1
FOOD SAMPLES EXAMINED FOR PRODUCT STANDARDS AND COMPLIANCE
STATE OF HAWAII, 1989

Type of Samples Collected	Number Collected	Violative Samples
Samples for Evidence Documentation a/	186	117
Product Standard Samples b/	44	1
Water Samples from Aquaculture Growing Areas	87	2
Seafood/Imported Shellfish	71	4

Notes:

a/ Samples to document a violation or suspected violation which may have been found during an inspection or investigation.
b/ Samples to determine compliance with labeling and product standard requirements.

TABLE 2
FOOD PRODUCTS EXAMINED FOR PESTICIDE RESIDUES
STATE OF HAWAII, 1989

Type of Samples Collected	Number Collected	Violative Samples a/
Food Products b/	117	2
Milk and Milk Products c/	187	0

Notes:

a/ The number of violative samples may include retested samples.
b/ Includes raw agricultural commodities and processed foods, other than milk and milk products.
c/ Includes raw or processed milk.

TABLE 3
SAMPLES AND ANALYSES OF MILK AND MILK PRODUCTS
STATE OF HAWAII, 1989

Product	No. of Samples for Product Standards a/	Violative Samples b/
Raw Milk	360	21
Processed Milk c/	329	28
Others d/	566	99

Notes:

a/ Analyses to determine compliance with various milk standards, including microbiological, inhibitory substance, somatic cell, phosphatase, milkfat, solids-not-fat, and temperature standards.
b/ The number of violative samples includes retested samples.
c/ Includes homogenized milk, 2% lowfat milk and skim milk.
d/ Other milk products include recombined milk, imitation milk, yogurt, sour cream, milk containers, etc.

TABLE 4
SAMPLES AND ANALYSES OF FROZEN DESSERTS a/
STATE OF HAWAII, 1989

Type of Frozen Dessert	Number of Samples	Violative Samples
Ice Milk	437	138
Ice Cream	26	1
Sherbet	14	0
Frozen Yogurt	329	79
Others (non-dairy)	17	2
Total	823	220

Note:

a/ Samples tested for compliance with various frozen dessert standards including milkfat, solids-not-fat and microbial standards.

TABLE 5
FOOD AND OVER-THE-COUNTER DRUGS CONDEMNED AND DESTROYED BY COUNTY STATE OF HAWAII, 1989

County	Foods (Wt. in Pounds)	Retail Value	Over-the-Counter Drugs/Med. Devices (Wt. in Pounds)	Retail Value
Honolulu	486,355	394,300	1,468	6,260
Hawaii	145,714	139,417		
Maui	3,100	9,050		
Kauai	21,304	27,001		
Total	656,473	569,768	1,468	6,260

TABLE 6
SELECTED ACTIVITIES OF THE FOOD AND DRUG BRANCH STATE OF HAWAII, 1989

Activities	Number
Agency Assistance a/	22
Complaint Investigations	297
Label Reviews	1,401
Frozen Dessert Permits Issued a/	337
Poison Permits Issued (new) a/ b/	12
Permits Issued for Prophylactic Devices	0
Number of Consultations a/	1,019
Workshops and Speaking Engagements a/	28

Notes:

a/ Information not available from all counties.

b/ The number of poison permits issued does not include renewed poison permits

BEHAVIORAL HEALTH SERVICES

ADMINISTRATION

Page
ADULT MENTAL HEALTH DIVISION 217

SUMMARY

The Mental Health Division provides both inpatient and outpatient services for a wide range of problems affecting disparate populations. The utilization patterns of services provide significant leads to understanding the nature, severity, and determinants of mental illness.

It is important to note that the tables in this year's statistical report as well as in those of prior years, with the exception of 1984, are summarized by calendar year. The 1984 annual statistical data were summarized by fiscal year because of a one time change necessitated by a database conversion from the batch oriented Multi-State Information System (MSIS) to the online, network oriented Mental Health Field Assessment and Statistical Information System (MFASIS) which was completed in 1985.

The tables from calendar year 1985 and on have been completely redesigned and are different from those of all previously published annual reports. The 1974 through 1981 reports examined demographic statistical information related to diagnosis, and the 1982 through 1984 reports displayed demographic information related to problems on admission.

Table 1 shows the Mental Health Division Movement Summary for the period 1975 - 1989 of actives, admissions, terminations, and unduplicated counts of clients.

Table 2 represents the total number of active clients as of the end of the year by age and Community Mental Health Centers.

Table 3 displays figures on admissions for the year by age and Community Mental Health Centers.

Table 4 displays demographic characteristics of clients served by ethnicity, age and sex for the entire year.

Table 5 shows demographic characteristics of clients admitted, active, and discharged for the year, broken down by ethnicity.

Table 6 represents the number of new admissions and readmissions during the year by referral source.

Table 7 shows the reasons why clients were discharged.

TABLE 1
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
MENTAL HEALTH DIVISION MOVEMENT SUMMARY, 1975 - 1989

Patients	1975	1976	1977	1978	1979	1980	1981	1982
Unduplicated Count of Patients Served	11101	11935	11806	11642	10713	10625	10689	10312
Actives	7090	6979	6905	6886	6392	6328	6642	6287
Admissions	5233	5533	5453	5441	4564	4696	4947	4885
Terminations	4633	5684	5529	5522	5057	4759	5062	5155

Table 1 (Cont.)

Patients	1983	1984a/	1985	1986	1987	1988	1989
Unduplicated Count of Patients Served	9970	9724	8891	8342	8220	8389	8003
Actives	6022	5692	6328	5852	5754	5234	5448
Admissions	4671	4307	3933	3826	3678	3694	3958
Terminations	5030	4887	4221	3725	3452	4193	3644

Note: a/ For the Fiscal Year 1984 (7/1/83 to 6/30/84).

MENTAL HEALTH DIVISION

TABLE 2
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
DEMOGRAPHIC CHARACTERISTICS OF ACTIVE CLIENTS
AGE SUMMARY REPORT

As of: 12/31/89

Center:	Oahu-Other Services		Central Oahu CMHC		Windward Oahu CMHC		Leeward Oahu CMHC		Diamond Head CMHC		Kalihi Palama CMHC		Maui CMHC		East Hawaii CMHC	
	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/
AGE																
0 - 11	-	-	47	9.2	73	14.3	46	9.0	36	7.0	72	14.1	26	5.1	49	9.6
12 - 17	-	-	43	6.5	80	12.1	56	8.4	46	6.9	81	12.2	41	6.2	75	11.3
18 - 39	-	-	146	6.0	142	5.9	182	7.5	239	9.9	265	11.0	261	10.8	170	7.0
40 - 59	1	0.1	113	8.0	87	6.2	120	8.5	179	12.7	193	13.6	147	10.4	106	7.5
60 & over	-	-	45	8.4	39	7.3	74	13.8	78	14.6	77	14.4	39	7.3	48	9.0
Totalc/	1	<0.1	394	7.1	421	7.6	478	8.6	578	10.4	688	12.4	514	9.3	448	8.1

Table 2 (Continued)

Center:	West Hawaii CMHC		Kauai CMHC		North Hawaii CMHC		Hawaii State Hosp.		Waianae MHC		Other		Total	
	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%b/
AGE														
0 - 11	1	0.2	47	9.2	-	-	16	3.1	65	12.7	33	6.5	511	9.2
12 - 17	-	-	42	6.3	-	-	16	2.4	114	17.2	69	10.4	663	12.0
18 - 39	181	7.5	206	8.5	41	1.7	141	5.8	292	12.1	149	6.2	2415	43.6
40 - 59	93	6.6	127	9.0	30	2.1	68	4.8	87	6.2	63	4.5	1414	25.5
60 & over	21	3.9	50	9.3	9	1.7	10	1.9	18	3.4	27	5.0	535	9.7
Unknown	-	-	-	-	-	-	-	-	-	-	1	100.0	1	<0.1
Totalc/	296	5.3	472	8.5	80	1.4	251	4.5	576	10.4	342	6.2	5539	100.0
Unduplicated total													5448	

Notes: a/ Percentage of row.
b/ Percentage of column.
c/ Numbers may not add up due to rounding.

TABLE 3
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
DEMOGRAPHIC CHARACTERISTICS OF ADMISSION BY UNITS
AGE SUMMARY REPORT

From: 1/01/89 To: 12/31/89

Center:	Oahu-Other Services		Central Oahu CMHC		Windward Oahu CMHC		Leeward Oahu CMHC		Diamond Head CMHC		Kalihi Palama CMHC		Maui CMHC		East Hawaii CMHC	
	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/
AGE																
0 - 11	-	-	50	11.4	60	13.7	24	5.5	59	13.5	59	13.5	12	2.7	23	5.3
12 - 17	-	-	43	9.1	43	9.1	24	5.1	89	18.9	62	13.2	14	3.0	13	2.8
18 - 39	-	-	113	5.3	90	4.2	131	6.1	238	11.1	213	9.9	95	4.4	92	4.3
40 - 59	-	-	28	3.8	23	3.1	43	5.8	115	15.5	90	12.1	34	4.6	38	5.1
60 & over	-	-	4	2.7	8	5.4	32	21.8	21	14.3	13	8.8	7	4.8	6	4.1
Total	-	-	238	6.0	224	5.7	254	6.4	522	13.2	437	11.1	162	4.1	172	4.4

Table 3 (Continued)

Center	West Hawaii CMHC		Kauai CMHC		North Hawaii CMHC		Hawaii State Hosp.		Waianae MHC		Other		Total	
	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%a/	#	%b/
AGE														
0 - 11	-	-	29	6.6	-	-	44	10.0	65	14.8	13	3.0	438	11.1
12 - 17	-	-	23	4.9	-	-	63	13.4	83	17.6	14	3.0	471	11.9
18 - 39	113	5.3	106	4.9	21	1.0	616	27.8	279	13.0	37	1.7	2144	54.4
40 - 59	34	4.6	34	4.6	19	2.6	195	26.2	72	9.7	18	2.4	743	18.8
60 & over	4	2.7	5	3.4	6	4.1	27	18.4	8	5.4	6	4.1	147	3.7
Total	151	3.8	197	5.0	46	1.2	945	24.0	507	12.9	88	2.2	3943	100.0
Unduplicated total													3306	

Notes: a/ Percentage of row.
b/ Percentage of column.
c/ Numbers may not add up due to rounding.

TABLE 4
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
DEMOGRAPHIC CHARACTERISTICS OF CLIENTS SERVED BY AGE AND SEX
ETHNIC SUMMARY REPORT BY AGE AND SEX

FROM: 01/01/89 TO: 12/31/89

	0 - 11						12 - 17						18 - 39					
ETHNICITY	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
	#	%a/	#	%a/	#	%b/	#	%a/	#	%a/	#	%b/	#	%a/	#	%a/	#	%b/
Alaskan Native	1	50.0	1	50.0	2	25.0	-	-	1	100.0	1	12.5	4	80.0	1	20.0	5	62.5
American Indian	1	100.0	-	-	1	2.1	7	87.5	1	12.5	8	16.7	11	45.8	13	54.2	24	50.0
Black	15	62.5	9	37.5	24	14.6	11	57.9	8	42.1	19	11.6	57	64.8	31	35.2	88	73.7
Cambodian	3	60.0	2	40.0	5	8.8	2	33.3	4	66.7	6	10.5	19	51.4	18	48.6	37	64.9
Caucasian	184	80.0	46	20.0	230	9.4	141	71.6	56	28.4	197	8.1	659	52.4	598	47.6	1257	51.6
Chinese	9	81.8	2	18.2	11	4.7	14	66.7	7	33.3	21	9.1	62	54.9	51	45.1	113	48.7
Cuban	-	-	-	-	-	-	-	-	-	-	-	-	2	100.0	-	-	2	100.0
Fijian	-	-	1	100.0	1	16.7	2	100.0	-	-	2	33.3	2	66.7	1	33.3	3	50.0
Filipino	55	85.9	9	14.1	64	6.6	65	71.4	26	28.6	91	9.4	310	63.4	179	36.6	489	50.7
Hawaiian	26	74.3	9	25.7	35	10.9	22	62.9	13	37.1	35	10.9	94	55.6	75	44.4	169	52.6
Japanese	39	72.2	15	27.8	54	4.7	45	71.4	18	28.6	63	5.5	283	63.7	161	36.3	444	38.5
Korean	5	71.4	2	28.6	7	5.8	11	78.6	3	21.4	14	11.6	31	56.4	24	43.6	55	45.5
Laotian	1	50.0	1	50.0	2	18.2	1	50.0	1	50.0	2	18.2	6	100.0	-	-	6	54.5
Mexican	4	80.0	1	20.0	5	11.1	5	100.0	-	-	5	11.1	13	52.0	12	48.0	25	55.6
Micronesian	-	-	1	100.0	1	12.5	-	-	-	-	-	-	2	40.0	3	60.0	5	62.5
Mixed	109	82.0	24	18.0	133	24.4	76	62.3	46	37.7	122	22.4	133	58.8	93	41.2	226	41.5
Okinawan	3	60.0	2	40.0	5	12.2	-	-	1	100.0	1	2.4	13	61.9	8	38.1	21	51.2
Part Hawaiian	165	79.3	43	20.7	208	14.5	164	66.4	83	33.6	247	17.2	413	57.5	305	42.5	718	50.1
Portugese	21	77.8	6	22.2	27	7.0	25	71.4	10	28.6	35	9.0	128	69.2	57	30.8	185	47.8
Puerto Rican	11	78.6	3	21.4	14	8.3	8	66.7	4	33.3	12	7.1	57	64.0	32	36.0	89	53.0
Samoan	18	90.0	2	10.0	20	10.5	17	68.0	8	32.0	25	13.2	74	61.7	46	38.3	120	63.2
Tongan	1	50.0	1	50.0	2	20.0	-	-	1	100.0	1	10.0	5	83.3	1	16.7	6	60.0
Vietnamese	2	100.0	-	-	2	5.9	3	100.0	-	-	3	8.8	12	57.1	9	42.9	21	61.8
Other Asian	-	-	-	-	-	-	-	-	1	100.0	1	5.9	4	30.8	9	69.2	13	76.5
Other Hispanic	4	100.0	-	-	4	8.3	5	100.0	-	-	5	10.4	12	44.4	15	55.6	27	56.3
Other Pac Isle	2	100.0	-	-	2	15.4	1	50.0	1	50.0	2	15.4	3	42.9	4	57.1	7	53.8
Other + Unknown	32	66.7	16	33.3	48	6.6	46	59.0	32	41.0	78	10.7	178	53.5	155	46.5	333	45.6
Totalc/	711	78.4	196	21.6	907	9.9	671	67.4	325	32.6	996	10.8	2587	57.6	1901	42.4	4488	48.8
Unduplicated total	677	77.9	192	22.1	869	10.9	627	67.1	307	32.9	934	11.7	2090	55.6	1671	44.4	3761	47.0

Notes:

a/ Percentage of row within age group.
b/ Percentage of row total.
c/ Numbers may not add up due to rounding.

TABLE 4 (CONT.)
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
DEMOGRAPHIC CHARACTERISTICS OF CLIENTS SERVED BY AGE AND SEX
ETHNIC SUMMARY REPORT BY AGE AND SEX

FROM: 01/01/89 TO: 12/31/89

	40 - 59						60 +						TOTAL					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
ETHNICITY	#	%a/	#	%a/	#	%b/	#	%a/	#	%a/	#	%b/	#	%c/	#	%c/	#	%d/
Alaskan Native	-	-	-	-	-	-	-	-	-	-	-	-	5	62.5	3	37.5	8	0.1
American Indian	4	26.7	11	73.3	15	31.3	-	-	-	-	-	-	23	47.9	25	52.1	48	0.5
Black	17	58.6	12	41.4	29	17.7	3	75.0	1	25.0	4	2.4	103	62.8	61	37.2	164	1.8
Cambodian	2	33.3	4	66.7	6	10.5	1	33.3	2	66.7	3	5.3	27	47.4	30	52.6	57	0.6
Caucasian	282	44.1	357	55.9	639	26.3	45	40.5	66	59.5	111	4.6	1311	53.9	1123	46.1	2434	26.5
Chinese	30	51.7	28	48.3	58	25.0	11	37.9	18	62.1	29	12.5	126	54.3	106	45.7	232	2.5
Cuban	-	-	-	-	-	-	-	-	-	-	-	-	2	100.0	-	-	2	<0.1
Fijian	-	-	-	-	-	-	-	-	-	-	-	-	4	66.7	2	33.3	6	0.1
Filipino	128	50.4	126	49.6	254	26.3	37	55.2	30	44.8	67	6.9	595	61.7	370	38.3	965	10.5
Hawaiian	22	36.1	39	63.9	61	19.0	7	33.3	14	66.7	21	6.5	171	53.3	150	46.7	321	3.5
Japanese	165	47.6	182	52.4	347	30.1	96	39.0	150	61.0	246	21.3	628	54.4	526	45.6	1154	12.6
Korean	17	50.0	17	50.0	34	28.1	3	27.3	8	72.7	11	9.1	67	55.4	54	44.6	121	1.3
Laotian	1	100.0	-	-	1	9.1	-	-	-	-	-	-	9	81.8	2	18.2	11	0.1
Mexican	6	60.0	4	40.0	10	22.2	-	-	-	-	-	-	28	62.2	17	37.8	45	0.5
Micronesian	1	100.0	-	-	1	12.5	1	100.0	-	-	1	12.5	4	50.0	4	50.0	8	0.1
Mixed	29	48.3	31	51.7	60	11.0	1	25.0	3	75.0	4	0.7	348	63.9	197	36.1	545	5.9
Okinawan	3	33.3	6	66.7	9	22.0	2	40.0	3	60.0	5	12.2	21	51.2	20	48.8	41	0.4
Part Hawaiian	100	45.7	119	54.3	219	15.3	17	40.5	25	59.5	42	2.9	859	59.9	575	40.1	1434	15.6
Portugese	60	61.9	37	38.1	97	25.1	21	48.8	22	51.2	43	11.1	255	65.9	132	34.1	387	4.2
Puerto Rican	26	60.5	17	39.5	43	25.6	4	40.0	6	60.0	10	6.0	106	63.1	62	36.9	168	1.8
Samoan	16	64.0	9	36.0	25	13.2	-	-	-	-	-	-	125	65.8	65	34.2	190	21
Tongan	1	100.0	-	-	1	10.0	-	-	-	-	-	-	7	70.0	3	30.0	10	0.1
Vietnamese	4	80.0	1	20.0	5	14.7	-	-	3	100.0	3	8.8	21	61.8	13	38.2	34	0.4
Other Asian	-	-	2	100.0	2	11.8	-	-	1	100.0	1	5.9	4	23.5	13	76.5	17	0.2
Other Hispanic	5	50.0	5	50.0	10	20.8	1	50.0	1	50.0	2	42	27	56.3	21	43.8	48	0.5
Other Pac Isle	-	-	1	100.0	1	7.7	-	-	1	100.0	1	7.7	6	46.2	7	53.8	13	0.1
Other + Unknown	103	54.8	85	45.2	188	25.8	38	45.8	45	54.2	83	11.4	397	54.4	333	45.6	730	7.9
Total	1022	48.3	1093	51.7	2115	23.0	288	41.9	399	58.1	687	7.5	5279	57.4	3914	42.6	9193	100.0
Unduplicated total	881	48.3	942	51.7	1823	22.8	258	41.9	358	58.1	616	7.7	4533	56.6	3470	43.4	8003	100.0

Notes:

a/ Percentage of row within age group.
b/ Percentage of row total.
c/ Percentage of males/females for ethnic total.
d/ Percentage of column total.
e/ Numbers may not add up due to rounding.

TABLE 5
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
DEMOGRAPHIC CHARACTERISTICS OF CLIENTS ADMITTED, ACTIVE, AND DISCHARGED
ETHNIC SUMMARY REPORT

FROM: 01/01/89 TO: 12/31/89

Ethnic Group	Carryover		New Admits		Readmits		Discharge		Net Total		Total	
	#	%a/	#	%a/	#	%a/	#	%a/	#	%b/	#	%c/
Alaskan Native	4	50.0	3	37.5	1	12.5	4	50.0	4	0.1	8	0.1
American Indian	18	37.5	23	47.9	7	14.6	16	33.3	32	0.6	48	0.5
Black	76	46.3	52	31.7	36	22.0	88	53.7	76	1.4	164	1.8
Cambodian	16	28.1	30	52.6	11	19.3	27	47.4	30	0.5	57	0.6
Caucasian	1204	49.5	687	28.2	543	22.3	1128	46.3	1306	23.5	2434	26.5
Chinese	141	60.8	42	18.1	49	21.1	91	39.2	141	2.5	232	2.5
Cuban	-	-	1	50.0	1	50.0	1	50.0	1	<0.1	2	,0.1
Fijian	3	50.0	3	50.0	-	-	1	16.7	5	0.1	6	0.1
Filipino	581	60.2	219	22.7	165	17.1	382	39.6	583	10.5	965	10.5
Hawaiian	157	48.9	107	33.3	57	17.8	128	39.9	193	3.5	321	3.5
Japanese	785	68.0	143	12.4	226	19.6	343	29.7	811	14.6	1154	12.6
Korean	62	51.2	24	19.8	35	28.9	52	43.0	69	1.2	121	1.3
Laotian	5	45.5	3	27.3	3	27.3	6	54.5	5	0.1	11	0.1
Mexican	25	55.6	12	26.7	8	17.8	15	33.3	30	0.5	45	0.5
Micronesian	8	100.0	-	-	-	-	3	37.5	5	0.1	8	0.1
Mixed	302	55.4	127	23.3	116	21.3	236	43.3	309	5.6	545	5.9
Okinawan	31	75.6	4	9.8	6	14.6	17	41.5	24	0.4	41	0.4
Part Hawaiian	807	56.2	327	22.8	301	21.0	538	37.5	897	16.2	1435	15.6
Portugese	234	60.5	63	16.3	90	23.3	154	39.8	233	4.2	387	4.2
Puerto Rican	91	54.2	29	17.3	48	28.6	77	45.8	91	1.6	168	1.8
Samoan	86	45.3	37	19.5	67	35.3	89	46.8	101	1.8	190	2.1
Tongan	6	60.0	1	10.0	3	30.0	8	80.0	2	<0.1	10	0.1
Vietnamese	15	44.1	8	23.5	11	32.4	15	44.1	19	0.3	34	0.4
Other Asian	11	64.7	5	29.4	1	5.9	9	52.9	8	0.1	17	0.2
Other Hispanic	29	60.4	9	18.8	10	20.8	27	56.3	21	0.4	48	0.5
Other Pac Isle	7	53.8	3	23.1	3	23.1	5	38.5	8	0.1	13	0.1
Other	532	72.9	75	10.3	123	16.8	184	25.2	546	9.8	730	7.9
Totald/	5236	57.0	2037	22.2	1921	20.9	3644	39.6	5550	100.0	9194	100.0
Unduplicated total											8004	

Notes:

a/ Percentage of row Carryover + New Admits + Readmits total.

b/ Percentage of row Net Total + Discharge. Net total = Carryover + New Admits + Readmits - Discharge.

c/ Percentage of column. Total = Net Total + Discharge.

d/ Numbers may not add up due to rounding.

TABLE 6
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
REFERRAL SOURCE OF ADMISSIONS (DUPLICATED COUNT)

FROM: 01/01/89 TO: 12/31/89

REFERRAL SOURCE	New Admissions #	New Admissions %a/	Readmissions #	Readmissions %a/	Total #	Total %b/
Community Programs						
Mental Health Center	52	27.51	137	72.49	189	50.67
Mental Health Community Program	30	31.58	65	68.42	95	25.47
Drug Treatment Program	6	46.15	7	53.85	13	3.49
Alcohol Treatment Program	8	61.54	5	38.46	13	3.49
CRSP	34	60.71	22	39.29	56	15.01
Nursing Home	2	28.57	5	71.43	7	1.88
Subtotal	132	35.39	241	64.41	373	9.42
Hospital						
General Hospital	193	37.84	317	62.16	510	60.21
Psychiatric Hospital	47	25.41	138	74.59	185	21.84
State Hospital	4	2.63	148	97.37	152	17.95
Subtotal	244	28.81	603	71.19	847	21.40
Private Professionals						
Psychiatric	54	45.38	65	54.62	119	45.77
Other Physician	64	78.05	18	21.95	82	31.54
Other Mental Health Professionals	38	77.55	11	22.45	49	18.85
Lawyer	9	90.00	1	10.00	10	3.85
Subtotal	165	63.46	95	36.54	260	6.57
Schools						
Public	204	78.56	56	21.54	260	59.09
Private	9	90.00	1	10.00	10	2.27
DOE Spec. Ed.	101	67.79	48	32.21	149	33.86
Community College	14	87.50	2	12.50	16	3.64
University	4	80.00	1	20.00	5	1.14
Subtotal	332	75.45	108	24.55	440	11.12
Individual						
Self	231	56.34	179	43.66	410	52.97
Family	177	75.00	59	25.00	236	30.49
Friend	96	82.05	21	17.95	117	15.12
Employer	3	75.00	1	25.00	4	0.52
Clergy	5	71.43	2	28.57	7	0.90
Subtotal	512	66.15	262	33.85	774	19.56
Government Agencies						
Law Enforcement	14	56.00	11	44.00	25	3.33
Adult Court	104	28.03	267	71.97	371	49.47
Family Court	121	71.60	48	28.40	169	22.53
Correction Agency	7	21.21	26	78.79	33	4.40
Probation and Parole	41	57.75	30	42.25	71	9.47
V.A.	3	100.00	-	-	3	0.40
Developmental Disabilities	1	33.33	2	66.67	3	0.40
Vocational Rehabilitation	15	83.33	3	16.67	18	2.40
Public Welfare	43	81.13	10	18.87	53	7.07
Military	4	100.00	-	-	4	0.53
Subtotal	353	47.07	397	52.93	750	18.95
Out of State	1	25.00	3	75.00	4	0.10
Other	298	58.43	212	41.57	510	12.89
Totalc/	2037	51.47	1921	48.53	3958	100.00

Notes: a/ Percentage of row.
b/ Percentage of column.
c/ Numbers may not add up due to rounding.

MENTAL HEALTH DIVISION

TABLE 7
MENTAL HEALTH FIELD ASSESSMENT AND STATISTICAL INFORMATION SYSTEM
REASON FOR DISCHARGE

FROM: 01/01/89 TO: 12/31/89

REASON FOR DISCHARGE	Number (#)	Percent (%)
Treatment Completed	1440	40.6
Transferred To ADMH Program	173	4.9
Non-compliance w/ Program Rules	84	2.4
Against Clinical Advice	46	1.3
Refused Treatment	212	6.0
Patient Moved	404	11.4
Incarcerated/Hospitalized	357	10.1
No Service Within Last 60 Days	725	20.5
Disappeared-Whereabouts Unknown	81	2.3
Died	21	0.6
TOTALa/	3543	100.0

Note: a/ Numbers may not add up due to rounding.

ATTACHED AGENCIES

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STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

SUMMARY

A. The Agency

The Hawai'i State Health Planning and Development Agency (SHPDA) is an agency of state government administratively attached to the State Department of Health. Authorized by the National Health Planning and Resources Development Act, the Agency was established under State law in July, 1976 with amendments to Chapter 323D, Hawai'i Revised Statutes. In 1986, the U.S. Congress chose not to extend the Federal Health Planning Law. Act 270, of the Session Laws of Hawai'i (SLH), 1987, amended Chapter 323D of the Hawai'i Revised Statutes, and appropriations for operations are now wholly provided through State funds.

B. Purpose of the Law

Hawaii's health planning and resources development program was established to promote accessibility for all the people of the State to quality health care services at reasonable cost. The certificate of need program is one of the ways of achieving that purpose. Act 270, SLH 1987, made major amendments to the law, most of them for the purpose of simplifying the certificate of need process.

Statewide planning is another major activity of the Agency in achieving the purpose of the law. The Agency, in conjunction with the Hawai'i Statewide Health Coordinating Council (HSHCC), produces and promotes the implementation of the State of Hawai'i Health Services and Facilities Plan (HSFP). In addition to establishing plan guidelines/standards, the HSFP also sets forth projections for acute and long term care bed needs for the State of Hawai'i.

C. History

The State Comprehensive Health Planning Agency (the forerunner agency to SHPDA) collected daily inpatient census data on a monthly basis from all inpatient facilities throughout the State beginning in 1974. The census data were collected from each inpatient facility for each type of bed.

In 1979, SHPDA changed from a monthly to a Quarterly Utilization Report (QUR). Through the cooperation of the health facilities in the State, the data are compiled and stored at SHPDA for future reference and analyses. The Agency collects information on the utilization of inpatient facilities in the State and prepares annual and quarterly reports. The inpatient data utilized in this report were obtained by SHPDA directly from each of the inpatient facilities in the State. Bed inventory data are from the SHPDA files.

D. Utilization Data Terms

1. Admissions

The number of admissions is defined as the number of inpatient admissions. A given person could be admitted more than once during a year. The number of admissions multiplied by the average length of stay produces the total number of patient days.

2. Average Length of Stay (ALOS)

The average length of stay is the average number of days patients remain in the facility per hospital stay. ALOS is computed by dividing the total patient days by the number of admissions.

Length of stay can be thought of as an indicator of either efficiency or seriousness of patient's illness. Facilities able to discharge patients in a shorter time might be thought of as being more efficient. However, in some instances where patients remain out of a hospital until their conditions are more serious or where outpatient care is encouraged for less serious conditions, patients admitted may be required to stay longer.

2. Average Length of Stay (Continued)

In addition, cases of long term care patients occupying acute beds because they cannot find long term accommodations may increase the acute length of stay-- confusing the interpretation. It would be best if, when computing length of stay, waitlisted long term care patients could be omitted from the acute inpatient care data. This has not been done in these data.

3. Average Daily Census (ADC)

The average daily census provides the mean number of beds occupied during the year. The average daily census multiplied by 365 gives the total number of patient days per year. The average daily census divided by the bed capacity and multiplied by 100 gives the occupancy rate.

4. Occupancy Rates (OCCUP %)

Occupancy rates can by computed by dividing the ADC by the number of licensed beds and multiplying by 100. This provides an idea of the proportion of bed capacity occupied on the average day. As with ADC, this will fluctuate from day to day and by type of bed and place.

If a hospital's occupancy rate is too high, it may not have adequate capacity to accept new patients. Also, some extra beds are always needed in order to allow for maintenance, etc. Usually, high occupancy in long term care beds is more acceptable, i.e., above 95%, since there is less daily fluctuation in daily census. In acute care, particularly where patients are admitted on a non-scheduled basis, e.g., OB, CCU, etc., the optimal occupancy can be lower in order to permit unforeseen admissions. For other types of acute beds, an occupancy of about 80-85% is acceptable because admissions can be scheduled if bed capacity is fully utilized on a given day.

In some instances, occupancy may run over 100% because of an overflow situation. This might occur if there are, for example, too many of a given type of patient who must be temporarily assigned to another bed type. Where occupancy rates are very high, this is an indication of an inadequate supply of that type of bed on a given island; where they are low, it is an indication of either an adequate supply or surplus of that type of bed on the island.

Although a facility's occupancy rate for licensed beds may run below 100% occupancy, that facility could run at or near 100% occupancy in terms of the number of staffed beds which were regularly maintained or set up and staffed ready for use. Differences in the licensed and staffed beds occupancy rates may be due to temporary closure of wards or rooms because of facility renovations, labor shortages and strikes.

STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

TABLE 1
SHPDA RECOGNIZED ACUTE CARE BED CAPACITY
1989

Facility	Medical/ Surgical	Critical Care a/	Obstetric	Pediatric	Neonatal ICU b/	Psych.	Total
METROPOLITAN							
Kaiser	124	20	30	20	2	0	196
Kapiolani c/	68	22	60	64	18	0	232
Kuakini	225	25	0	0	0	0	250
Queen's	394	37	25	0	0	50	506
St. Francis	230	22	0	4	0	0	256
Straub	136	23	0	0	0	0	159
Subtotal	1177	149	115	88	20	50	1599
SUBURBAN							
Castle	79	8	14	0	0	55	156
Kahuku	6	2	3	0	0	0	11
Pali Momi	108	8	0	0	0	0	116
Wahiawa	50	5	14	0	0	0	69
Subtotal	243	23	31	0	0	55	352
MILITARY							
Tripler	352	8	60	17	0	72	509
OAHU TOTAL	1772	180	206	105	20	177	2460
HAWAII COUNTY							
Hilo	91	11	20	14	0	20	156
Honokaa	19	2	4	2	0	0	27
Kohala	4	0	0	0	0	0	4
Kona	41	8	8	0	0	8	65
Subtotal	155	21	32	16	0	28	252
MAUI COUNTY							
Hana	4	0	0	0	0	0	4
Kula	2	0	0	0	0	0	2
Maui	104	8	18	5	0	10	145
Lanai	3	1	1	0	0	1	6
Molokai	4	0	4	0	0	0	8
Subtotal	117	9	23	5	0	11	165
KAUAI COUNTY							
Mahelona	0	0	0	0	0	9	9
Kauai Vet.	18	2	4	0	0	0	24
G.N.Wilcox	64	8	9	0	0	0	81
Subtotal	82	10	13	0	0	9	114
NEIGHBOR ISLAND TOTAL	354	40	68	21	0	48	531
STATE TOTAL	2126	220	274	126	20	225	2991

Notes: a/ Includes coronary and intensive care units.
b/ Neonatal isolettes.
c/ Critical Care includes 6 Ped ICU Intermediate Care and 10 Perinatal.

TABLE 2
SHPDA RECOGNIZED LONG TERM BED CAPACITY
1989

Facility	Skilled Nursing	Intermediate Care	SNF/ICF	Acute/SNF Swing	Total
OAHU					
Aloha Health Care	0	0	120	0	120
Ann Pearl	0	86	0	0	86
Arcadia	60	0	0	0	60
Beverly Manor	0	0	108	0	108
Convalescent Center	0	0	183	0	183
Crawford's	0	68	0	0	68
Hale Ho Aloha	0	85	0	0	85
Hale Malamalama	0	31	0	0	31
Hale Nani	0	0	232	0	232
Hawaii Select Care	0	92	0	0	92
Island Nursing	0	0	42	0	42
Kahanaola	0	0	42	0	42
Kahuku	11	0	0	4	15
Kaiser	55	0	0	0	55
Kuakini	50	150	0	0	200
Leahi	98	81	0	0	179
Leeward	0	50	0	0	50
Maluhia	0	0	158	0	158
Maunalani	0	0	101	0	101
Nuuanu Hale	0	0	75	0	75
Oahu Care Facility	0	82	0	0	82
Queen's	30	0	0	0	30
St. Francis	52	0	0	0	52
Wahiawa	0	0	93	0	93
OAHU SUBTOTAL	356	725	1154	4	2239
HAWAII COUNTY					
Hillhaven Kona	0	0	60	0	60
Hilo Hospital	36	84	0	0	120
Honokaa	8	0	0	0	8
Kau	0	0	10	5	15
Kohala	0	0	18	4	22
Kona	0	0	17	0	17
Life Care Center	0	240	0	0	240
HAWAII SUBTOTAL	44	324	105	9	482
MAUI COUNTY					
Hale Makua	0	124	120	0	244
Kula	0	0	95	0	95
Lanai	0	0	8	0	8
Molokai	0	0	14	8	22
MAUI COUNTY SUBTOTAL	0	124	237	8	369
KAUAI COUNTY					
Hale Omao	0	36	0	0	36
Kauai Care Center	0	21	0	0	21
Kauai Veterans	0	0	15	5	20
Mahelona	0	0	61	6	67
G.N. Wilcox	0	0	80	0	80
KAUAI SUBTOTAL	0	57	156	11	224
NEIGHBOR ISLAND TOTAL	44	505	498	28	1075
STATE TOTAL	400	1230	1652	32	3314

TABLE 3
SHPDA RECOGNIZED SPECIALTY CARE BED CAPACITY
1989

Facility	Psych.	TB	MR	SNF/ICF MR	Hansen's Disease
Hale Mohalu	0	0	0	0	21
Hawaii State Hosp. a/	239	0	0	0	0
Kahi Mohala	88	0	0	0	0
Kalaupapa	0	0	0	0	14
Kula	0	0	8	0	0
Leahi	0	8	0	0	0
Rehab. Hospital	0	0	0	0	0
Shriner's	0	0	0	0	0
Waimano	0	0	145	60	0
Grand Total	327	8	153	60	35

Note at bottom of Table.

Table 3 (Continued)

Facility	Rehab.	Children's Ortho.	Medical/ Surgical	Total
Hale Mohalu	0	0	0	21
Hawaii State Hospital a/	0	0	0	239
Kahi Mohala	0	0	0	88
Kalaupapa	0	0	0	14
Kula	0	0	0	8
Leahi	0	0	5	13
Rehab Hospital	100	0	0	100
Shriner's	0	40	0	40
Waimano	0	0	0	205
Grand Total	100	40	5	728

Note: a/ Includes 20 ped. psych. beds

TABLE 4
NUMBER OF ADMISSIONS BY COUNTY
1982-1989

County	1982	1983	1984	1985	1986	1987	1988	1989
LONG TERM CARE								
Oahu	1572	1478	1373	1522	1526	1528	1615	1630
Hawaii	420	607	513	490	468	401	430	469
Kauai	131	178	247	254	233	312	282	266
Tri-Isle	375	311	473	309	337	312	416	288
Maui	348	282	446	281	289	283	292	181
Molokai	20	20	23	19	48	23	124	89
Lanai	7	9	4	9	—	6	—	18
TOTAL ACUTE								
Oahu	78155	78459	73955	61416	67499	91106	92930	69589
Hawaii	11526	10455	10328	10313	11006	10885	11076	10472
Kauai	5400	5597	4697	4909	5204	5158	5152	4923
Tri-Isle	7298	7820	7550	7835	7995	6677	8373	6702
Maui	6866	7253	7007	7406	7626	6260	8181	6459
Molokai	395	500	478	331	369	276	192	139
Lanai	37	67	65	98	—	141	—	104
MEDICAL-SURGICAL								
Oahu	51335	51853	47292	45222	43654	55665	57008	41766
Hawaii	7160	6017	6023	6038	6469	6234	5947	5640
Kauai	3187	3310	2942	3117	3554	3342	3296	3132
Tri-Isle	4765	5148	5009	5386	5433	4396	5751	4509
Maui	4478	4752	4572	5024	5130	4163	5635	4370
Molokai	253	351	387	283	303	189	116	45
Lanai	34	45	50	79	—	44	—	94
CRITICAL CARE (CCU/ICU)								
Oahu	5522	5585	5686	5878	6085	6544	5791	5506
Hawaii	1085	1093	1304	1272	1443	1504	1640	1535
Kauai	631	698	588	611	563	656	700	656
Maui	575	714	545	563	540	529	553	522
OBSTETRICS								
Oahu	13203	14018	13653	12734	11216	18334	18971	14497
Hawaii	2079	2025	2061	1924	2022	2129	2612	2438
Kauai	1033	1028	921	891	912	890	967	953
Tri-Isle	1290	1419	1390	1238	1235	1024	1292	1216
Maui	1182	1306	1288	1173	1169	931	1216	1112
Molokai	105	100	91	48	66	87	76	94
Lanai	3	13	11	17	—	6	—	10
PEDIATRICS								
Oahu	6357	5023	4416	4209	3381	5951	6392	4738
Hawaii	739	837	661	633	617	576	493	481
Kauai	361	341	...	...	...	...	...	...
Maui	452	414	399	439	486	412	498	271
PSYCHIATRIC								
Oahu	1738	2000	2556	3565	3851	4088	4381	2666
Hawaii	463	483	434	446	455	442	384	378
Kauai	188	220	246	290	185	270	189	182
Maui	174	176	207	209	247	235	279	184

Notes: 1987 and 1988 data includes Tripler
... = Category not applicable.
— = Data not available.

TABLE 5
AVERAGE LENGTH OF STAY BY COUNTY
1982-1989

County	1982	1983	1984	1985	1986	1987	1988	1989
LONG TERM CARE								
Oahu	388	409	452	412	419	444	[illegible]	458
Hawaii	337	233	274	287	296	359	[illegible]	324
Kauai	336	264	194	195	101	201	[illegible]	289
Tri-Isle	331	407	264	412	372	403	[illegible]	387
Maui	338	426	263	427	418	417	[illegible]	568
Molokai	203	214	195	260	95	200	45	70
Lanai	323	216	696	276	—	496	—	136
TOTAL ACUTE								
Oahu	6.6	6.3	5.9	6.5	6.8	7.0	6.8	7.2
Hawaii	4.1	4.2	4.3	4.3	4.5	4.9	5.2	5.5
Kauai	5.5	4.6	4.4	4.4	3.6	4.3	4.3	5.1
Tri-Isle	4.9	4.9	4.7	4.7	4.6	4.7	4.8	5.0
Maui	5.1	3.5	4.9	4.8	3.5	4.8	4.9	5.0
Molokai	2.7	3.7	2.9	3.1	3.5	3.3	2.8	2.2
Lanai	2.9	4.2	4.3	2.9	—	2.8	—	3.5
MEDICAL-SURGICAL								
Oahu	7.6	7.1	6.7	7.2	7.6	7.9	7.7	8.4
Hawaii	4.6	5.2	5.5	5.3	5.5	6.3	7.2	7.6
Kauai	7.8	6.0	5.3	5.2	4.0	5.2	5.1	6.1
Tri-Isle	6.0	5.9	5.7	5.6	5.7	5.7	5.6	6.1
Maui	6.1	6.0	5.9	5.8	5.8	5.9	5.7	6.2
Molokai	3.5	4.6	3.2	3.3	4.0	4.1	3.9	4.2
Lanai	3.0	5.3	4.9	3.1	—	3.0	—	3.7
CRITICAL CARE (ICU/CCU)								
Oahu	7.2	7.7	5.0	5.8	5.9	6.2	8.5	10.4
Hawaii	2.9	2.7	2.6	2.5	2.5	2.4	2.5	2.8
Kauai	2.1	1.5	1.8	2.0	1.8	1.9	2.2	2.4
Maui	3.2	2.6	2.8	3.1	3.3	2.8	3.2	2.8
OBSTETRIC								
Oahu	3.2	3.1	3.2	3.2	3.3	3.4	3.2	2.3
Hawaii	2.3	2.2	2.2	2.4	2.6	2.5	2.4	2.4
Kauai	2.6	2.0	2.4	2.5	2.4	2.5	2.4	2.5
Tri-Isle	2.0	2.0	2.0	1.9	1.7	1.8	1.8	1.6
Maui	2.1	2.1	2.0	1.9	1.7	1.9	1.8	1.6
Molokai	1.5	1.5	1.4	1.4	1.4	1.7	1.2	1.3
Lanai	1.3	1.4	2.1	2.1	—	1.5	—	2.1
PEDIATRIC								
Oahu	3.9	3.8	3.9	3.9	4.0	4.7	4.0	4.3
Hawaii	2.8	2.8	2.7	2.7	2.8	2.8	2.9	3.6
Kauai	2.6	2.2	...	...	...	...	...	...
Maui	3.9	3.7	3.5	3.0	2.7	2.3	3.2	2.9
PSYCHIATRIC								
Oahu	11.4	10.0	11.9	12.3	13.8	13.6	12.6	11.3
Hawaii	9.1	7.8	6.3	6.0	7.1	7.8	9.3	7.7
Kauai	6.4	6.9	6.4	5.6	7.0	5.9	8.6	10.7
Maui	6.7	6.3	7.3	6.8	6.8	6.0	7.2	8.6

Notes: 1987 and 1988 data includes Tripler.
... = Category not applicable.
— = Data not available.

TABLE 6
OCCUPANCY RATES BY COUNTY
1982-1989

County	1982	1983	1984	1985	1986	1987	1988	1989
LONG TERM CARE								
Oahu	96.0	95.4	97.3	97.2	90.5	93.7	91.4	95.0
Hawaii	82.9	94.6	95.2	95.3	93.8	96.7	92.3	95.1
Kauai	99.8	94.5	96.3	91.1	83.0	92.1	86.9	94.0
Tri-Isle	94.9	96.8	92.6	97.0	97.3	95.6	95.3	82.9
Maui	95.4	97.5	95.0	97.0	97.6	95.7	97.0	83.1
Molokai	92.5	97.6	55.8	96.8	89.3	90.1	70.1	77.1
Lanai	77.5	66.6	95.1	84.9	—	100.0	—	84.1
TOTAL ACUTE								
Oahu	79.1	76.5	70.8	67.7	67.3	74.4	75.1	74.9
Hawaii	49.5	48.2	48.3	48.3	53.8	60.7	67.8	65.8
Kauai	57.4	49.5	43.8	50.0	44.4	51.5	53.4	63.5
Tri-Isle	59.1	62.3	58.2	57.8	61.5	64.6	69.8	73.3
Maui	65.5	67.3	60.4	62.6	65.4	70.1	72.6	80.5
Molokai	19.3	34.0	41.4	17.3	25.0	15.8	18.4	10.6
Lanai	5.0	13.3	12.7	12.9	—	12.9	—	16.7
MEDICAL-SURGICAL								
Oahu	83.0	77.2	69.8	68.2	68.8	72.3	73.3	74.8
Hawaii	63.9	60.8	62.4	62.3	65.1	74.6	80.3	80.2
Kauai	64.1	54.2	45.8	54.5	47.6	56.1	55.2	68.8
Tri-Isle	76.8	81.8	65.2	65.0	67.7	72.4	78.9	85.5
Maui	82.5	86.0	66.1	70.5	72.3	77.7	80.7	92.1
Molokai	37.5	55.0	67.4	21.5	25.0	17.7	30.7	13.0
Lanai	10.0	23.3	22.5	22.2	—	24.1	—	31.5
CRITICAL CARE (ICU/CCU)								
Oahu	80.0	73.5	63.6	61.1	63.6	68.8	83.4	86.5
Hawaii	41.7	39.0	44.9	41.3	50.0	52.9	58.3	69.9
Kauai	36.0	28.0	29.5	33.4	30.0	35.8	46.0	44.0
Maui	62.3	63.8	51.9	52.9	27.8	67.1	60.7	66.2
OBSTETRICS								
Oahu	76.8	81.4	80.7	75.2	68.4	83.0	86.2	58.4
Hawaii	35.9	33.6	33.7	35.3	36.8	43.5	50.8	35.9
Kauai	46.0	46.3	38.5	37.9	37.5	37.7	49.6	50.4
Tri-Isle	27.9	30.0	32.3	27.6	26.1	26.1	27.3	30.4
Maui	32.5	34.1	39.0	33.6	33.3	35.2	34.2	36.7
Molokai	10.0	10.0	8.9	4.7	...	10.2	6.1	8.2
Lanai	1.0	5.0	6.3	9.9	—	4.9	—	5.8
PEDIATRICS								
Oahu	47.8	60.0	54.8	52.4	47.7	73.7	61.9	64.0
Hawaii	16.7	19.0	14.2	14.4	31.3	27.2	24.5	39.6
Kauai	43.3	35.0	...	...	...	...	...	...
Tri-Isle	35.5	31.4	76.2	70.7	80.0	68.5	86.5	57.9
Maui	40.5	35.0	76.2	70.7	80.0	68.5	86.5	57.9
Molokai	5.0	10.0	...	...	...	...	...	...
PSYCHIATRIC								
Oahu	90.5	78.3	78.9	62.1	75.1	86.4	74.9	78.6
Hawaii	39.6	49.0	35.5	35.0	32.1	47.4	48.9	39.7
Kauai	36.7	45.6	48.0	49.2	44.4	48.1	49.4	59.1
Maui	22.4	22.1	41.3	39.1	50.0	49.4	55.3	57.8

Notes: 1987 and 1988 data includes Tripler.
... = Category not applicable.
— = Data not available.

TABLE 7
AVERAGE DAILY CENSUS BY COUNTY
1982-1989

County	1982	1983	1984	1985	1986	1987	1988	1989
LONG TERM CARE								
Oahu	1670	1657	1696	1720	1753	1863	1992	2043
Hawaii	388	388	384	385	379	394	381	434
Kauai	126	129	131	136	127	178	184	210
Tri-Isle	342	348	341	349	343	344	343	306
Maui	323	330	321	328	330	323	328	282
Molokai	12	12	12	14	13	13	15	17
Lanai	7	6	8	7	—	8	—	7
TOTAL ACUTE								
Oahu	1418	1358	1280	1284	1295	1717	1742	1374
Hawaii	130	123	124	122	135	146	159	159
Kauai	83	71	56	59	52	60	61	69
Tri-Isle	100	106	98	101	104	111	111	121
Maui	96	99	93	97	100	108	110	119
Molokai	3	6	4	3	4	2	1	1
Lanai	1	1	1	1	—	1	—	1
MEDICAL-SURGICAL								
Oahu	1071	1012	913	889	910	1206	1195	958
Hawaii	91	87	90	88	97	108	117	118
Kauai	66	55	43	45	39	47	46	52
Tri-Isle	80	85	78	83	84	92	90	100
Maui	76	79	74	79	81	89	89	98
Molokai	3	5	3	3	3	2	1	1
Lanai	1	1	1	1	—	1	—	1
CRITICAL CARE (ICU/CCU)								
Oahu	110	119	95	94	98	110	135	157
Hawaii	9	9	9	9	10	10	11	12
Kauai	4	3	3	3	3	3	4	4
Maui	5	6	4	5	5	5	5	5
OBSTETRICS								
Oahu	116	121	118	111	100	171	168	92
Hawaii	13	13	12	13	14	15	17	16
Kauai	8	8	6	6	6	6	6	7
Maui	7	8	7	6	6	6	6	7
PEDIATRICS								
Oahu	68	53	47	45	42	77	69	56
Hawaii	6	7	5	5	5	4	4	5
Kauai	3	3	...	...	...	...	...	...
Maui	5	5	4	4	4	3	4	3
PSYCHIATRIC								
Oahu	55	55	83	120	145	153	151	83
Hawaii	12	11	7	7	9	9	10	8
Kauai	4	7	4	4	4	4	4	5
Maui	4	7	4	4	5	5	6	6

Notes: 1987 and 1988 data includes Tripler.
... = Category not applicable.
— = Data not available.

OFFICE OF HEALTH STATUS MONITORING
STATE DEPARTMENT OF HEALTH
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ADDRESS CORRECTION REQUESTED

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